Service Manual

NATIONAL
HI-FI COMPONENTS
PANASONIC

FM/AM 4 CHANNEL RECEIVER

MODEL SA-6800X

* This service manual includes only the changes of the **SA-6800X Panasonic** service manual (ORDER NO. AD-023).
* This manual should be filed with the **Panasonic** service manual for model **SA-6800X** (ORDER NO. AD-023).
* When servicing model **SA-6800X** this **NATIONAL PANASONIC** service manual and the **SA-6800X** (ORDER NO. AD-023) **Panasonic** service manual should be used together.

CHANGES

11150023 91000241 13
SM-SA6800X 1 ST
SERVICE MANUAL

TECHNICAL SPECIFICATIONS

GENERAL

Power Consumption:	550W
Power Supply:	110/120/220/240V (50/60 Hz)
Dimensions (W×H×D):	453×157×407.5mm (17 27/32" ×6 3/16" ×16 1/32")
Weight:	15.6 kg (34.4 lbs.)

* For other specifications, refer to specification of model SA-6800X Panasonic service manual (Order No. AD-023)

TECHNISCHE DATEN (Änderungen vorbehalten)

(Erfüllt die Mindestanforderungen nach DIN 45 500)

VERSTÄRKERTEIL

Musikleistung (bei Aussteuerung beider Kanäle):		4×75W (4Ω) 4×50W (8Ω)
Nennleistung (Sinusleistung, bei Aussteuerung beider Kanäle):		4×30W (4Ω) 4×25W (8Ω)
Klirrfaktor:		
Nennleistung, bei 1000 Hz 4Ω		0.5%
Nennleistung, bei 40~16000 Hz 4Ω		0.5%
Intermodulation (Nennleistung, bei 250 : 8000 Hz=4 : 1 4Ω):		0.7%
Leistungsbandbreite:		13Hz~20kHz, −3dB
Frequenzgang:		20Hz~50kHz, −3dB
Eingänge:	PHONO	3mV 50kΩ
	AUX	200mV 50kΩ
Tonband-Cinchbuchse:		
Wiedergabe (PLAYBACK)		200mV 50kΩ
Aufnahme (REC OUT)		200mV
Fremdspannungsabstand:		
bei Nennleistung	PHONO	60dB
	AUX	80dB
bei 50mW Ausgangsleistung		
	PHONO	50dB
	AUX	50dB
Klangregler:		
Tiefen-Bereich		+13dB, −14dB bei 50Hz
Höhen-Bereich		+10dB, −10dB bei 10kHz
Dämpfungsfaktor:		20 bei 4Ω 40 bei 8Ω
Lautheitsregler-Schalter:		50Hz +9.5dB, 10kHz +4dB
Rumpelfilter:		200Hz −6dB/okt
Rauschfilter:		6kHz −6dB/okt
AFD Regler (Matrix):	WIDTH	α =0~1
	DEPTH	β =0~1
Phasendifferenz im hinteren Kanel:		90° 0° 180°
AFD Regler (getrennt):	WIDTH	γ =0~1
	DEPTH	γ =0~1

FM-TUNERTEIL

Antennenanschluß:	300Ω (symmetrisch) 75Ω (unsymmetrisch)
Empfangsbereich:	88~108MHz
Empfindlichkeit (bei ±40kHz Hub):	1.8μV, 30dB Rauschabstand, 300Ω 1.4μV, 20dB Rauschabstand, 300Ω 0.9μV, 20dB Rauschabstand, 75Ω
Klirrfaktor (bei ±40kHz Hub):	Mono 0.4% Stereo 0.7%
Fremdspannungsabstand (bei ±40kHz Hub):	Mono 57dB Stereo 57dB
Selektivität bei 400kHz:	70dB
Spiegelselektion (98MHz):	85dB
Gleichwellen-Selektion:	1.5dB
ZF-Festigkeit (bei 98MHz):	85dB
Stereo-Übersprechdämpfung:	35dB bei 1000Hz
Begrenzung, Einsatzpunkt:	1.2μV
Bandbreite ZF-Verstärker	350kHz
UKW-Demodulator	700kHz

AM-TUNERTEIL

Empfangsbereich:	520~1610kHz
Empfindlichkeit:	8μV
Selektivität:	25dB
Spiegel-Selektion:	40dB
ZF-Festigkeit:	35dB

ALLGEMEINE DATEN

Leistungsaufnahme:	550W
Netzspannung, umschaltbar:	110/120/220/240V
Abmessungen (B×H×T):	453×157×407.5mm
Gewicht:	15.6kg

ORDER NO. AD-034

MATSUSHITA ELECTRIC
MATSUSHITA ELECTRIC TRADING CO., LTD.
P. O. Box 288, Central Osaka, Japan

■ REPLACEMENT PARTS LIST

● Addition ○ Deletion

Ref. No.	Change of Part No. Panasonic SA-6800X (AD-023) → NATIONAL PANASONIC SA-6800X (AD-034)		Description	Per Set (Pcs.)	Remarks	Price
T1	SLTA5S1S	SLTA5S2S	Power Transformer	1	Ⓝ A	
R13	ERC12GK335Z	○	3.3MΩ, 1/2W, ±10%, Solid	1	B	
C225	ECCD05010CC	ECCD05040CC	4pF, 50WV, ±0.25pF, Ceramic	1	C	
C245	ECCD05070DC	ECCD05040CC	4pF, 50WV, ±0.25pF, Ceramic	1	C	
C313, 314	ECQG05392JZN	ECQG05103JZN	0.01μF, 50WV, ±5%, Polyester	2	C	
C307, 308	ECQG05333JZN	ECQG05103JZN	0.01μF, 50WV, ±5%, Polyester	2	C	
S16-1～S16-3	●	SSRA7S	Switch, Voltage Selector (Refer to fig. 2)	1	A	
F1	XBAS1B4002	XBA1K40NS5	Fuse, Power Source [4A]	1	A	
F2	XBAS1B3003	XBAS1B3001	Fuse, Power Source [3A]	1	A	
	→SYWA20A	SYWA22A	Front Panel (Complete)	1	Ⓝ B	
CA3	SGUA3	SGUA6	Panel, Dial	(1)	Ⓝ C	
CA4	SGBA44	SGBA901	Badge, NATIONAL PANASONIC	(1)	C	
CA7	SGWA900	SGWA920	Panel Only, Indicator	(1)	C	
CA15	SBCA44	○	Button, Push Switches	12	B	
CA20	SBCA43	○	Button, Power Source Switch	1	B	
	→SYPA20AS	SYPA22AS	Rear Panel (Complete) (Refer to fig. 4)	1	Ⓝ B	
CA28	SJFA3006	○	30 pin Terminal, Input & Tape Monitor	(1)	C	
CA29	SGTA1150	SGTA1240	Name Plate	(1)	Ⓝ C	
CA34-1	SNEA204S	○	Screw, Ground Terminal	(1)	C	
CA34-2	SNEA404	○	Nut, Ground Terminal [Outer]	(1)	C	
CA34-3	SNTA421	○	Washer, Ground Terminal	(1)	C	
CA34-4	SNTA423	○	Terminal, Lead Wire	(1)	C	
CA34-5	XWA4B	○	Spring Washer, Ground Terminal	(1)	C	
CA34-6	XNG4BS	○	Nut, Ground Terminal [Inner]	(1)	C	
CA37	SJFA3408	○	Terminal, Mixing Output	(1)	C	
CA38	RJS7A	○	Socket, 4 Channel Balancer	(1)	C	
CA39	SGPA221C	SGPA221B	Rear Panel Only	(1)	C	
CA41	RJA34	RJA30	AC Cord, Power Source	1	C	
	→SYUA10A	SYUA11B	Bottom Board (Complete)	1	C	
CA43	SKUA290	SKUA310	Bottom Board Only (Order SYUA11B)	(1)	C	
CA44	●	SJFA3006	30 pin Terminal, Input & Tape Monitor (Refer to fig. 5)	1	C	
CA45-1	●	SNEA204S	Screw, Ground Terminal (Refer to fig. 6)	1	C	
CA45-2	●	SNEA404	Nut, Ground Terminal [Outer] (Refer to fig. 6)	1	C	
CA45-3	●	SNTA421	Washer, Ground Terminal (Refer to fig. 6)	1	C	
CA45-4	●	SNTA423	Terminal, Lead Wire (Refer to fig. 6)	1	C	
CA45-5	●	XWA4B	Spring Washer, Ground Terminal (Refer to fig. 6)	1	C	
CA45-6	●	XNG4BS	Nut, Ground Terminal [Inner] (Refer to fig. 6)	1	C	
CA46	●	SJFA3408	Terminal, Mixing Output (Refer to fig. 5)	1	C	
CA47	●	RJS7A	Socket, 4 Channel Balancer (Refer to fig. 5)	1	C	
A1	→SH-1010Z	SH-1010Z-(X)	4 Channel Balancer (Complete)	1	B	
A1-7	SGBA43	SGBA41	Badge	(1)		
A1-9	W4PESE	W4PASE	Cord, Connector (520cm) } Order SH-1010Z-(X)	(203")		
A1-10	SGTA1220	SGTA1130	Name Plate	(1)		
A5	●	SJP15S	Plug, AC Power Source (Refer to fig. 7)	1	B	
A6	●	RJP74	Plug, AC Power Source (Refer to fig. 8)	1	B	
A7	●	RJP75	Plug, AC Power Source (Refer to fig. 9)	1	B	
P5	SPSA12	SPSA38	Pad [Upper]	1	C	
P6	SPSA11	SPSA37	Pad [Inner]	1	C	
P7	SPSA13	SPSA39	Pad [Lower]	1	C	
P8	SPGA31A	SPNA51A	Carton Box [Inner]	1	Ⓝ C	
P9	→SQFA119	SQFA128	Printed Matter (Complete)	1	Ⓝ B	
	SQXA5074	SQXA5080	Instructions Book (Order SQFA128)	(1)		
P10	●	SPSA33	Pad, Accessory Model SH-1010Z-(X) (Refer to fig. 10)	1	C	
P11	●	SPSA40	Pad, Inner Carton Box (Refer to fig. 11)	1	C	
P12	●	SPGA35A	Carton Box [Outer] (Refer to fig. 11)	1	Ⓝ C	

Service Manual

Panasonic
HI-FI COMPONENTS
Panasonic

4 Ch. Balancer
(SH-1010Z)

FM/AM 4 CHANNEL RECEIVER MODEL SA-6800X

TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice for further improvement.)

AUDIO SECTION

IHF Music Power:		300W at 4Ω 200W at 8Ω
RMS Power (per channel):		53W×4 at 4Ω 42W×4 at 8Ω
(4 channel total):		120W at 4Ω 100W at 8Ω
Harmonic Distortion:		0.5%
Intermodulation Distortion: (60Hz : 7kHz=4 : 1, SMPTE)		0.7%
Power bandwidth:		7Hz~40kHz −3dB
Frequency Response:	PHONO	RIAA standard curve ±1dB
	AUX	20Hz~50kHz +0, −3dB
	Power amplifier	10Hz~70kHz +0, −1dB
Residual hum & noise:		1.5mV
Input sensitivity & impedance:	PHONO	3mV 50kΩ
	AUX	200mV 50kΩ
	Tape monitor	200mV 50kΩ
S/N (IHF, A):	PHONO	73dB
	AUX	85dB
Tone control:	BASS	+13dB, −14dB at 50Hz
	TREBLE	+10dB, −10dB at 10kHz
Loudness control:		50Hz +9.5dB, 10kHz +4dB
High filter:		6kHz, −6dB/oct
Low filter:		200 Hz, −6dB/oct
Damping factor:		20 at 4Ω, 40 at 8Ω
REC OUT:		200mV
MIXING OUT:		600mV
AFD control (matrix):	WIDTH	$\alpha=0\sim1$
	DEPTH	$\beta=0\sim1$
Rear channel phase, difference:	90°	90
	0°	0°
	180°	180°
AFD control (discrete):	WIDTH	$\gamma=0\sim1$
	DEPTH	$\gamma=0\sim1$

FM TUNER SECTION

Frequency range:	88~108MHz
Sensitivity (IHF):	1.8μV
Harmonic distortion (at 400Hz, 100% mod):	0.4%
S/N:	65dB
Alternate channel selectivity:	70dB
IF rejection (at 98MHz):	85dB
Image rejection (at 98MHz):	85dB
AM suppression:	45dB
Capture ratio (IHF):	1.5dB
Stereo separation (at 1kHz):	35dB

AM TUNER SECTION

Frequency range:	520~1610kHz
Sensitivity:	8μV
Selectivity (at 1000kHz, ±10kHz):	25dB
Image rejection (at 1000kHz):	40dB
IF rejection (at 1000kHz):	35dB

GENERAL

Power consumption:	170W
Power supply:	60Hz 120V
Dimensions (W×H×D):	17 7/8" ×6 3/16" × 16 1/4"
Weight:	34.4 lbs.

MATSUSHITA ELECTRIC CORP. OF AMERICA Pan-Am Bldg., 200 Park Ave. New York, N.Y. 10017
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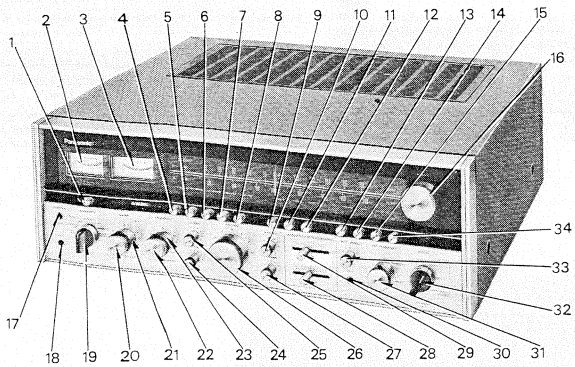
MATSUSHITA ELECTRIC OF CANADA LTD. 40 Ronson Drive, Rexdale, Ont.

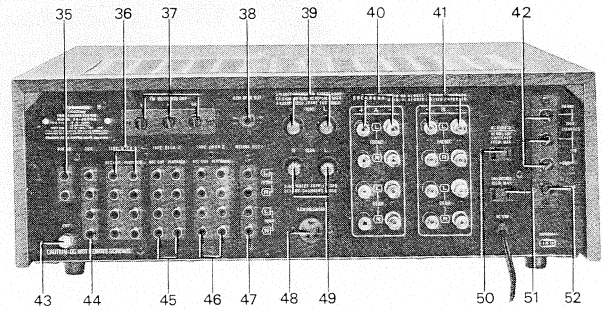
ORDER NO. AD-023

■ LOCATION OF CONTROLS



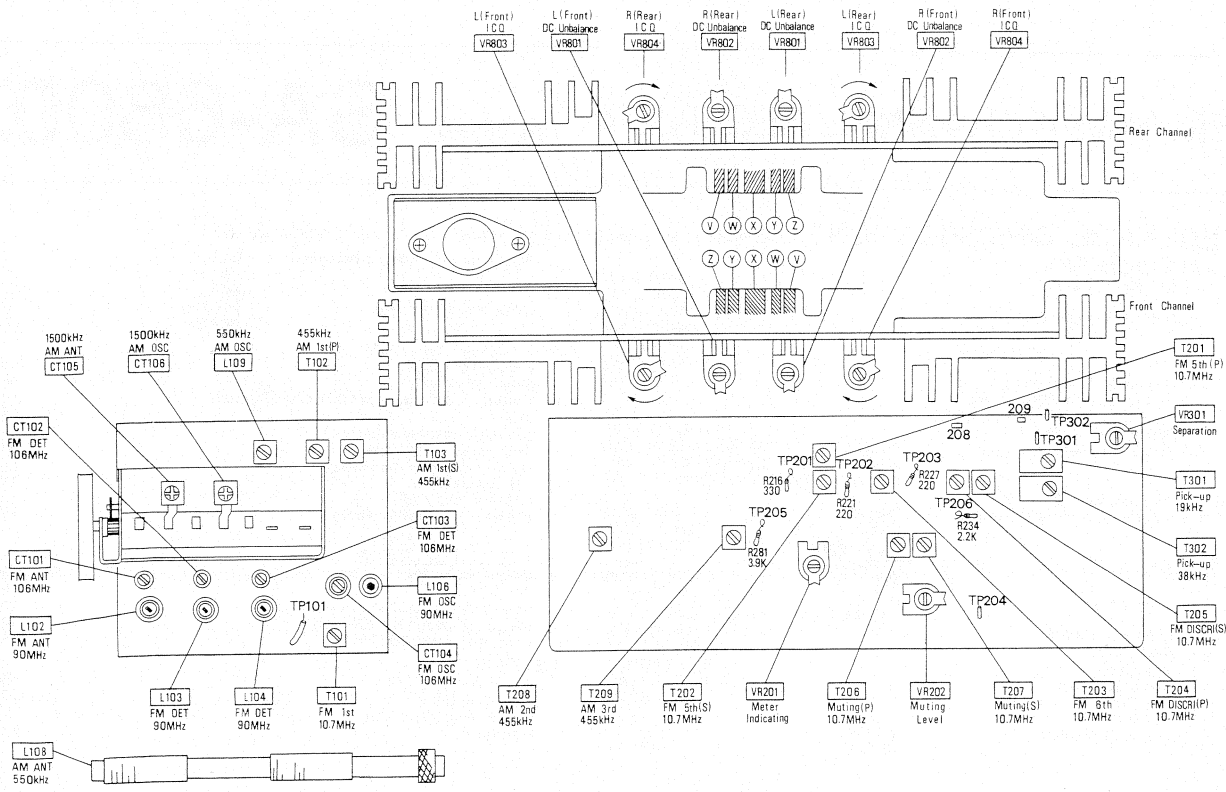
1. POWER SOURCE SWITCH
2. SIGNAL STRENGTH METER
3. FM TUNING METER
4. HIGH BLEND SWITCH
5. MUTING SWITCH
6. LOUDNESS SWITCH
7. LOW FILTER SWITCH
8. HIGH FILTER SWITCH
9. TAPE MONITOR (TAPE 1) SWITCH
10. RIGHT FRONT VOLUME CONTROL
11. TAPE MONITOR (TAPE 2) SWITCH
12. TAPE MONITOR (TAPE 3) SWITCH
13. INPUT SELECTION (PHONO) SWITCH
14. INPUT SELECTION (AUX) SWITCH
15. SELECTION (FM AUTO) SWITCH
16. TUNING CONTROL
17. HEADPHONES JACK.....Front Channel
18. HEADPHONES JACK.....Rear Channel
19. SPEAKER SELECTOR SWITCH
20. BASS CONTROL.....Front Channel
21. BASS CONTROL.....Rear Channel
22. TREBLE CONTROL.....Front Channel
23. TREBLE CONTROL.....Rear Channel
24. LEFT REAR VOLUME CONTROL
25. LEFT FRONT VOLUME CONTROL
26. MAIN VOLUME CONTROL
27. RIGHT REAR VOLUME CONTROL
28. AFD (DEPTH) CONTROL
29. AFD (WIDTH) CONTROL
30. MICROPHONE JACK
31. MIC POSITION CONTROL
32. MODE SELECTOR SWITCH
33. MIC LEVEL CONTROL
34. SELECTION (AM) SWITCH

35. INPUT (PHONO) TERMINALS .....2 Channel
36. TAPE MONITOR (DECK 1) TERMINALS .....4 Channel
37. FM MULTIPATH OUTPUT TERMINALS
38. 4 CHANNEL MPX OUTPUT TERMINAL
39. CIRCUIT PROTECTION FUSES .....Front Channel
40. MAIN SPEAKER TERMINALS
41. REMOTE SPEAKER TERMINALS
42. FM ANTENNA TERMINALS
43. GROUND TERMINALS
44. INPUT (AUX) TERMINALS.....4 Channel
45. TAPE MONITOR (DECK 2) TERMINALS .....4 Channel
46. TAPE MONITOR (DECK 3) TERMINALS .....4 Channel
47. MIXING OUTPUT TERMINALS
48. 4 CHANNEL BALANCER TERMINAL
49. CIRCUIT PROTECTION FUSES .....Rear Channel
50. AC POWER OUTLET.....Switched
51. AC POWER OUTLET.....Unswitched
52. AM ANTENNA TERMINAL



■ ALIGNMENT INSTRUCTIONS

• Alignment Points



ALIGNMENT INSTRUCTIONS.....READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:
1. Volume control ..... Maximum
2. Speakers switch ..... Main-Normal
3. Other controls ..... Optional position
4. Mic level control..... Maximum
5. Maintain line voltage at 120 volts.
6. The adjustment should be started 1~2 minutes after setting the power switch to the ON position.
7. Before the adjustment, ICQ adjusting volumes VR_{803} and VR_{804} (Rear channel is same as Front channel.) should be turned to the left side completely. Refer to Alignment points.

	CIRCUIT	VTVM CONNECTION	ADJUSTMENT POINTS	REMARKS
	MAIN AMP ALIGNMENT			Number **2'** step is Model SA-6800X alignment.
1	DC Unbalance	Connect DC VTVM to Ⓧ and Ⓩ terminal. (Left channel)	VR_{801} (Front and Rear)	Make sure that VTVM becomes 0 mV.
		Connect DC VTVM to Ⓧ and Ⓥ terminal. (Right channel)	VR_{802} (Front and Rear)	
2	ICQ	Connect DC VTVM to Ⓨ and Ⓩ terminal. (Left channel)	VR_{803} (Front and Rear)	Make adjustments so that the indication on VTVM becomes 2.5 mV.
		Connect DC VTVM to Ⓦ and Ⓥ terminal. (Right channel)	VR_{804} (Front and Rear)	
2'	ICQ	Connect DC VTVM to Ⓨ and Ⓩ terminal. (Left channel)	VR_{803} (Front and Rear)	Make adjustments so that the indication on VTVM becomes 3 mV.
		Connect DC VTVM to Ⓦ and Ⓥ terminal. (Right channel)	VR_{804} (Front and Rear)	

Notes:
1. Volume control ..... Maximum (AM-RF)
   Minimum (AM-IF, FM-IF)
   Variable (FM-RF)
2. Bass and treble control ..... Center
3. Band selector switch ..... AM
   FM-Auto (FM-RF, FM-IF)
4. Loudness switch ..... OFF
5. Muting switch ..... OFF
6. High, Low filter switch ..... OFF
7. Tape-monitor switch ..... Source
8. Mode switch ..... Stereo
9. Speakers switch ..... Main or Remote
10. Maintain line voltage at 120 volts.
11. Output of signal generator should be no higher than necessary to obtain an output reading.

	SIGNAL GENERATOR or SWEEP GENERATOR CONNECTION	SIGNAL GENERATOR or SWEEP GENERATOR FREQUENCY	RCVR. DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS
	AM ALIGNMENT					
3	High side through 0.001 μF to antenna terminal, Common to chassis.	455 kHz (20 kHz Sweep)	Point of non-interference	Connect vert. amp. of scope to **TP**205.	T_{102} (1st IFT) (P) T_{103} (1st IFT) (S) T_{208} (2nd IFT) T_{209} (3rd IFT)	Adjust for maximum output.
4	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz (30% Mod. with 400 Hz)	550 kHz [19.2mm (3/4")]	Connect meter to main speakers terminal of set.	L_{109} (OSC Coil) L_{108} (ANT Coil)	Adjust for maximum output. Adjust L_{108} by moving coil bobbin along ferrite core.
5	〃	1500 kHz (〃)	1500 kHz [160.7mm (6 11/32")]	〃	CT_{106} (OSC Trimmer) CT_{105} (ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
	FM-IF AND MUTING CIRCUIT ALIGNMENT					Number **9** step is Model SA-6400X alignment only.
6	High side through 0.001 μF to **TP**101. Common to chassis.	10.7 MHz (400 kHz Sweep)	Point of non-interference.	Connect vert. amp. of scope through detector to FM-IF p.c.b. **TP**201, Common to chassis. (Refer to fig. 1)	T_{101} (FM 1st IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 2)
7	〃	〃	〃	Connect scope through detector to **TP**202.	T_{201} (FM 5th IFT) (P) T_{202} (FM 5th IFT) (S)	〃
8	〃	〃	〃	Connect scope through detector to **TP**203.	T_{203} (FM 6th IFT)	〃
9				Connect DC VTVM between **TP**206 and No. **208** terminal.	T_{205} (FM DISCRI IFT) (S)	Make sure that VTVM becomes 0V.
10	High side through 0.001 μF to **TP**101. Common to chassis.	10.7 MHz (400 kHz Sweep)	Point of non-interference.	Connect vert. amp. of scope to No. **209** terminal.	T_{204} (FM DISCRI IFT) (P)	Adjust T_{204} so that 10.7 MHz marker appears at the center. (Refer to fig. 4)
11	〃	〃	〃	Connect vert. amp. of scope to **TP**204.	T_{206} (Muting IFT) (P) T_{207} (Muting IFT) (S)	Adjust for maximum sharp and proper linearity. (Refer to fig. 2)
	(P) ..... Primary (S) ..... Secondary					
	TUNING METER ALIGNMENT ..... This alignment is Model SA-6800X alignment only.					
12	High side through 0.001 μF to **TP**101. Common to chassis.	10.7 MHz (400 kHz Sweep)	Point of non-interference.	Tuning meter of set.	T_{205} (DISCRI IFT) (S)	Adjust for center of tuning meter indication. (Refer to fig. 3)

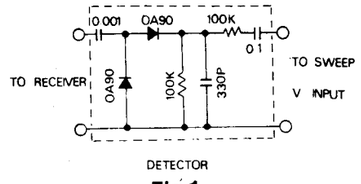


Fig 1

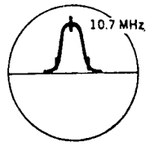


Fig. 2

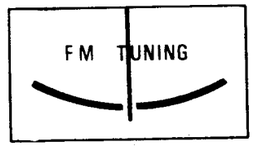


Fig. 3

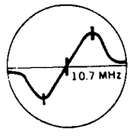


Fig. 4

	SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	RCVR. DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS
	FM-RF ALIGNMENT					
13	Connect to FM antenna terminal through FM dummy antenna. (Refer to fig. 5)	90 MHz (100% Mod. with 400 Hz)	90 MHz [20.4mm (13/16")]	Output meter across speaker terminals.	L_{106} (FM OSC Coil) * L_{104} (FM DET Coil) L_{103} (FM DET Coil) L_{102} (FM ANT Coil)	Adjust for maximum output.
14	〃	106 MHz (〃)	106 MHz [151.3mm (5 15/16")]	〃	CT_{104} (FM OSC Trimmer) CT_{103} (FM DET Trimmer) CT_{102} (FM DET Trimmer) CT_{101} (FM ANT Trimmer)	Adjust for maximum output. Repeat steps (13) and (14).

* Use six cornered alignment tool for aligning FM OSC coil (L_{106}).

	MUTING LEVEL ALIGNMENT					
	Note: Muting switch.....ON					
15	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (100% Mod. with 400 Hz) Output 28 dB	98 MHz	Output meter or speaker across speaker terminals.	VR202 (Muting Level)	Adjust so that output can be obtained.
	FM-MONO DISTORTION ALIGNMENT					
	Note: Muting switch ..... OFF					
16	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (100% Mod. with 400 Hz) Output 72 dB	98 MHz	Connect distortion meter to speaker terminals.	T_{204} (FM DISCRI IFT) (P)	Adjust for minimum distortion.
	SIGNAL METER ALIGNMENT					
17	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (100% Mod. with 400 Hz) Output 72 dB	98 MHz	Signal meter of set.	VR201 (Indicated Position)	Refer to fig. 6.

Notes:
Stereo-modulator ..... Connect stereo-modulator output to EXT. MOD. terminal of signal generator. Internal OSC 1 kHz. Pilot signal modulation 10%.
Signal generator ..... Frequency approximately 98 MHz. Output level 72 dB. Modulation mode to FM.
1. Band selector ..... FM-Auto
2. Bass and treble control..... Center
3. High and Low filter switch ..... OFF
4. Mode switch ..... Stereo
5. Maintain line voltage at 120 volts.
6. Muting switch..... OFF
7. Loudness switch..... OFF
8. Speaker switch ..... Main (Normal)
9. Tape monitor switch..... Source
10. Dummy load ..... 8 Ω, L and R Main terminal

	SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE and MOD. RATE	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS
	19 kHz, 38 kHz COIL AND PHASE ALIGNMENT				
18	FM antenna terminal through dummy antenna.	Pilot signal to ON.	Connect scope to **TP**301, Common to chassis.	T301 (19 kHz Coil)	Adjust for maximum output.
19	〃	〃	Connect scope to **TP**302, Common to chassis.	T302 (38 kHz Coil)	〃
20	〃	〃 L (or R) 30% Mod.	Connect scope to speaker terminals.	T302 (38 kHz Coil)	Adjust for minimum right (or left) output.
	SEPARATION ALIGNMENT				
21	FM antenna terminal through dummy antenna.	L (and R) 30% Mod.	Output meter across speaker terminals through low pass filter. (Refer to fig. 7)	VR301 (Separation)	Adjust for minimum right (and left) output.

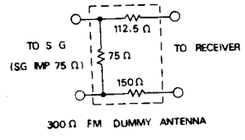


Fig. 5

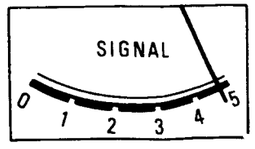


Fig. 6

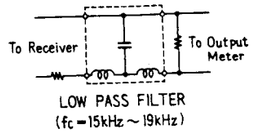
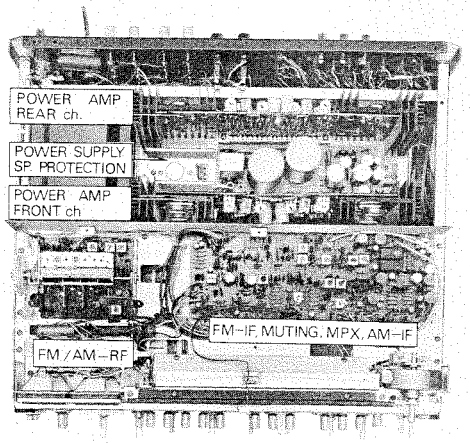
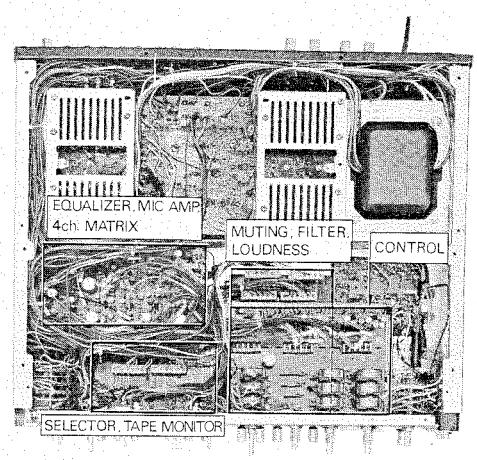


Fig. 7

■ LOCATIONS OF CIRCUIT BOARDS



Top View



Bottom View

■ TO REMOVE CHASSIS

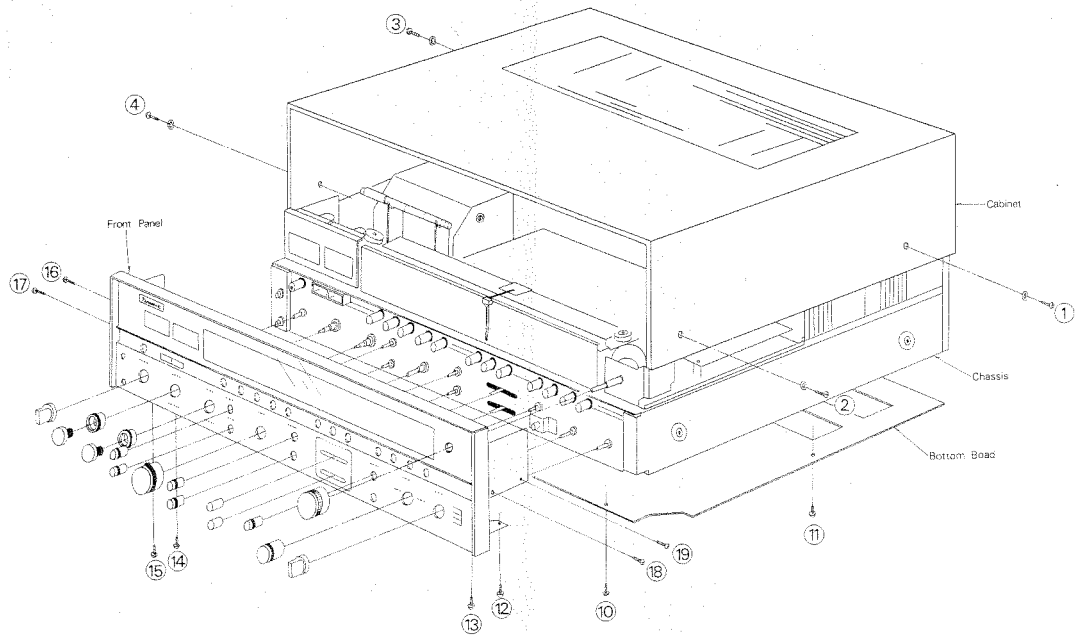


Fig. 1

- **To Remove Cabinet and Bottom Board**
  1. Remove four (4) cabinet mounting screws, nos. ① ~ ④, as illustrated in figure 1 and 2.
  2. Remove cabinet from chassis.
  3. Remove seven (7) bottom board mounting red screws, nos. ⑤ ~ ⑪, as illustrated in figure 2.
  4. Remove bottom board from chassis.
- **To Remove Front Panel**
  1. Remove cabinet from chassis (Refer to Remove Cabinet)
  2. Remove sixteen (16) control knobs from set front as illustrated in figure 1.
  3. Remove eight (8) panel mounting black screws, nos. ⑫ ~ ⑲, as illustrated in figure 1.
  4. Remove front panel from chassis.
  5. To reassemble, reverse the above procedure.
- **To Remove Main Amplifier Circuit Board** (Each ch.)
  1. Remove chassis mounting black screws, nos. ⑳ ~ ㉑ (Front channel) or ㉒ ~ ㉓ (Rear channel), as illustrated in figure 2.

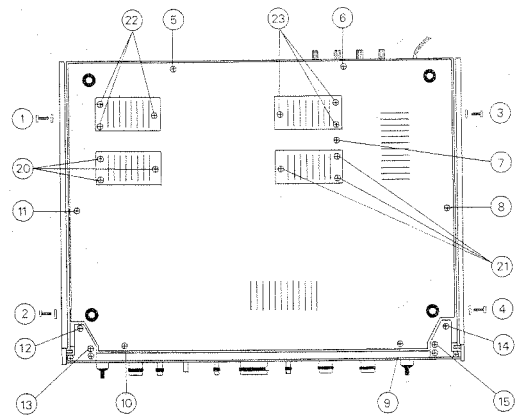


Fig. 2

Schematic Diagram

Model SA-6800X

Notes :

1. S1-1～S4-2 : Selector switch in "AM" position.
   S1-1～S1-4……AM　　S2-1～S2-4……FM AUTO
   S3-1～S3-4……AUX　　S4-1～S4-2……PHONO
2. S5-1～S7-4 : Tape-monitor switch in "SOURCE" position.
   S5-1～S5-4……TAPE 3　　S6-1～S6-4……TAPE 2
   S7-1～S7-4……TAPE 1
3. S8-1～S8-10 : Mode switch in "MONO" position.
   MONO↔STEREO↔Q'PLEX PHASE 90°↔0°↔180°↔Q'SONIC
   AFD OFF↔Q'SONIC　AFD ON
4. S9-1～S9-4 : High filter switch in "OFF" position.
5. S10-1～S10-4 : Low filter switch in "OFF" position.
6. S11-1～S11-4 : Loudness switch in "OFF" position.
7. S12 : Muting switch in "ON" position.
8. S13 : High blend switch in "OFF" position.
9. S14-1～S14-4 : Speakers selector switch in "MAIN NORMAL" position.
   RIGHT TURN↔REVERSE TURN↔LEFT TURN↔NORMAL↔
   MAIN SPEAKER
   OFF↔REMOTE↔MAIN+REMOTE
10. S15 : Power source switch in "OFF" position.
11. DC voltage measurements are taken with VTVM from chassis ground.
    [ ]……FM/AM No signal condition.
    ( )……FM stereo signal reception.
    { }……FM muting to ON position.

⊖ B Voltage Line　⊕ B Voltage Line

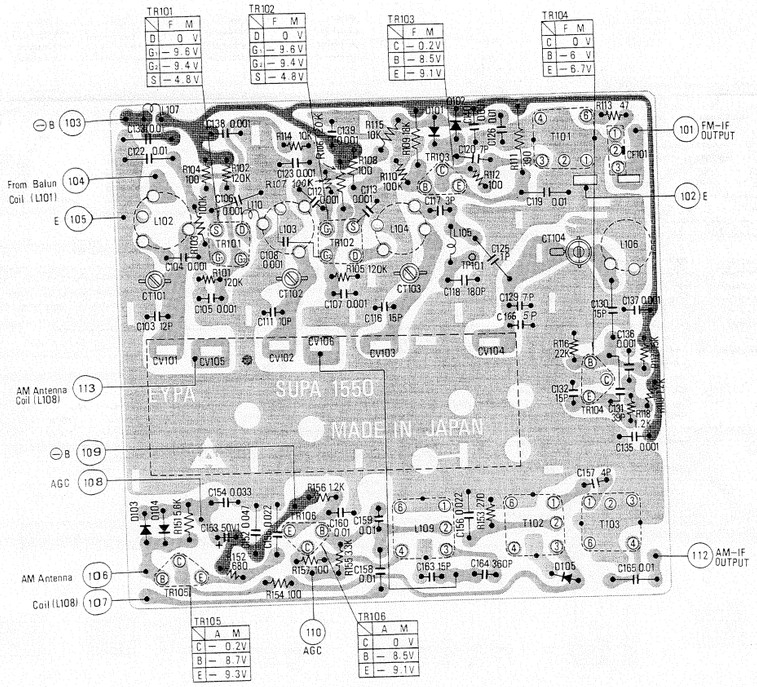
(This schematic diagram may be modified at any time with the development of new technology.)

VARIABLE RESISTORS

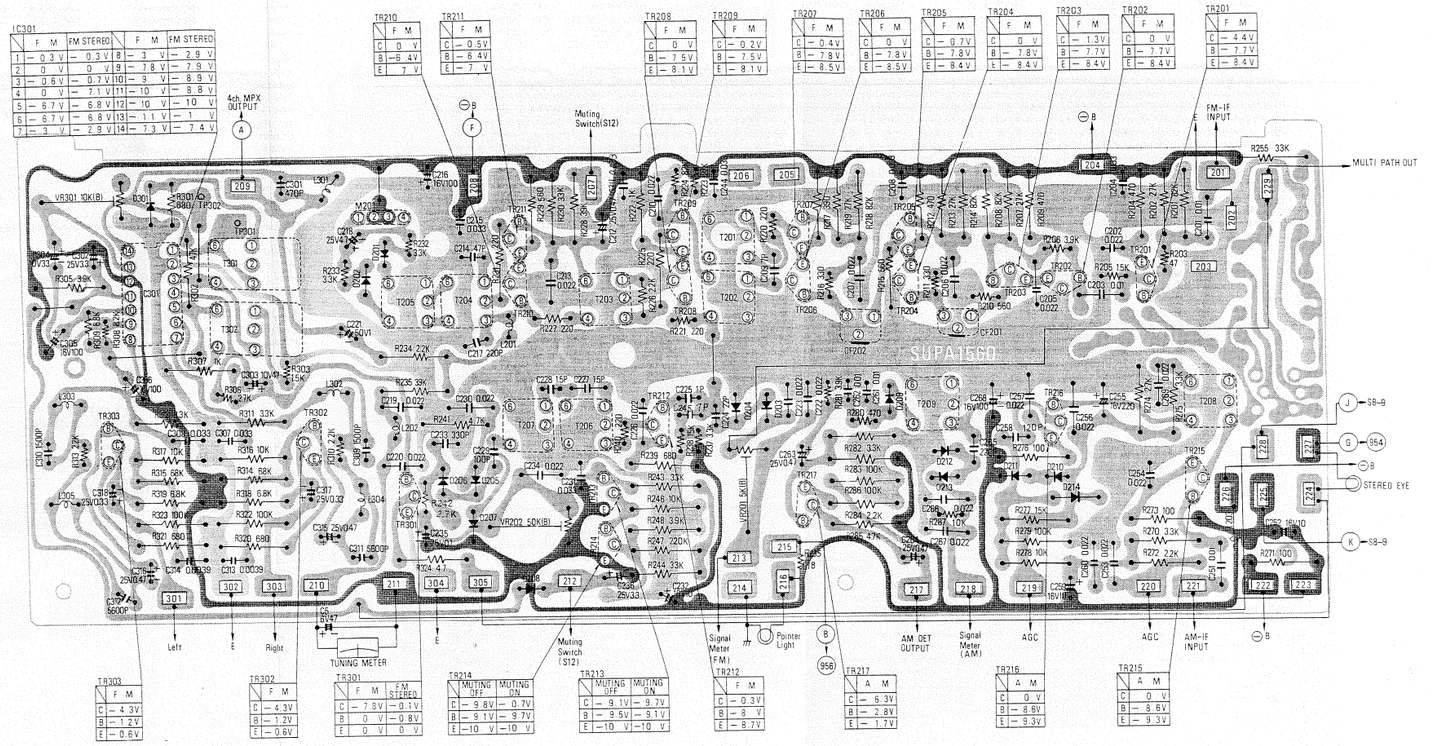
VR1-1～VR1-4 : AFD (WIDTH) control
VR2 : Mic level control
VR3 : Mic position control
VR4-1～VR4-2 : AFD (DEPTH) control
VR5-LF, RF, LR, RR : Volume (Balance) control
VR701-LF, RF, LR, RR : Main volume control
VR702-LF, RF, LR, RR : Bass control
VR703-LF, RF, LR, RR : Treble control

TR103 2SC920 FM MIX
TR104 2SC920 FM OSC
DI01, 102 0A90
TR201 2SC829 FM 1st IF
TR202, 203 2SC829 FM 2nd IF
TR204, 205 2SC829 FM 3rd IF
TR206, 207 2SC829 FM 4th IF
D203, 204 0A79
R208, 209 2SC829 FM 5th IF
D205, 206 0A79
TR210, 211 2SC829 FM 6th IF
D201, 202 2-0A79
D208, 301 0A79
IC301 AN211 MPX
TR301 2SA642 SWITCHING
TR302, 303 2SA666 AF AMP
SUPA1550
TR215 2SC829 AM 1st IF
TR216 2SC829 AM 2nd IF
TR217 2SA666 AF AMP
D207 1S1211
TR213, 214 2SC828 MUTING
TR212
SUPA1560
D210, 211 1S1211
D209, 212-214 0A79
TR212 2SC829 MUTING IF
TUNING METER
4ch MPX OUT
TR801-804 2SA666A DIFFERENTIAL
TR805, 806 2SC696A PRE DRIVER
TR807, 808 2SC828 THERMIC COMP.
TR809, 810 2SC696A DRIVER
TR811, 812 2SA546A DRIVER
TR813-816 2SD217 POWER AMP
MIX OUT
PL10 7.5V75mA 2ch INDICATOR LAMP
MAIN LEFT FRONT REMOTE
4ch INDICATOR LAMP
FRONT PHONE
MAIN RIGHT FRONT REMOTE
SUPA1480
TR701, 702 2SA666 CONTROL
TR705, 706 2SA666 CONTROL
TR703, 704 2SA666 CONTROL
TR707, 708 2SA666 CONTROL
SUPA1510
SUPA1470
MAIN LEFT REAR REMOTE
REAR PHONE
MAIN RIGHT REAR REMOTE
TR903, 904 2SC828A SP. PROTECTION
TR905 2SA545 SP. PROTECTION
D901 AS2HB10
D906, 907 SD-1Y
TR401, 402 2SA666 EQUALIZER
TR403, 404 2SC828A EQUALIZER
TR601, 602 2SA666A MATRIX
TR603, 604 2SA666A PHASE SHIFT
SIGNAL METER
TR602
TR603
TR604
TR601 2SC644 MIC AMP
TR501, 502 2SA666 MIC AMP
SUPA1460
TR503
TR504 2SA666A MIC AMP
TR505 2SA666A MIC AMP
TR506 2SA666A MIC AMP
TR507 2SA666A MIC AMP
MIC
VR3 100KB×4×2
L105
TR1~103, L105
T201~206
T301~302
AN211
3SK39
2SC920
2SD217
2SC644 2SC828 2SC829 2SA666 2SA642
2SA666A 2SA545 2SA666A 2SA684
2SC828A 2SA546A 2SC696A
VR1-4 100KW
REAR FRONT VR
RIGHT LEFT VR
BALANCE
VR5 VR6 VR7 VR8
SH-1010Z
TR902 2SA684 RIPPLE FILTER
D904 1N4740
D902, 903, 905 SD-1Y
SUPA 1490
Dial Light 6.3V0.25A
PL8 PL7 PL6 PL5 PL4 PL3 PL2
RELAY
SWITCHED OUTLET
UNSWITCHED OUTLET
AC 60Hz 120V
BOTTOM VIEW

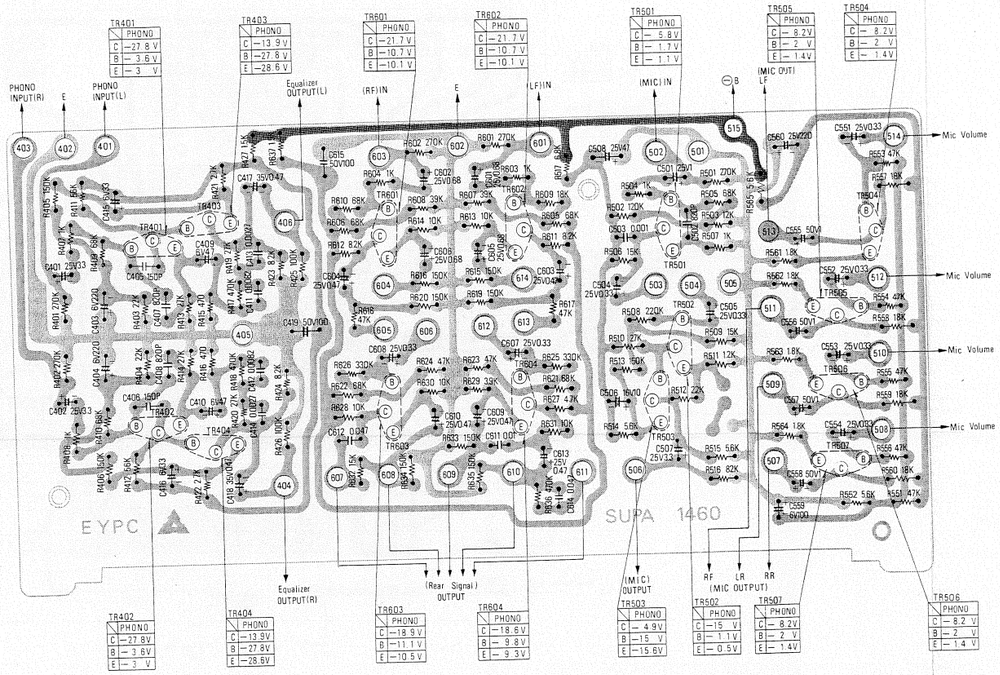
FM/AM-RF Circuit Board



FM-IF, MUTING, MPX, METER & AM-IF Circuit Board



4 CH. MATRIX, MIC AMP & EQUALIZER Circuit Board



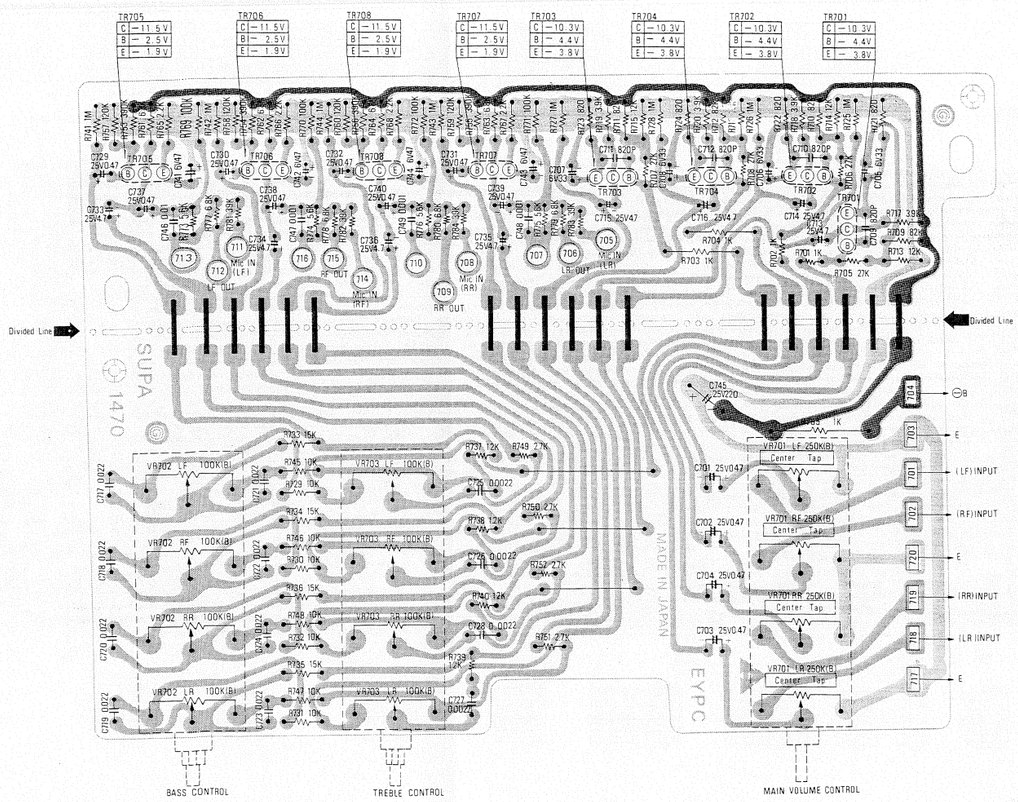
⊕ B Voltage Line

⊖ B Voltage Line

Earth Line (Ground)

Signal Line

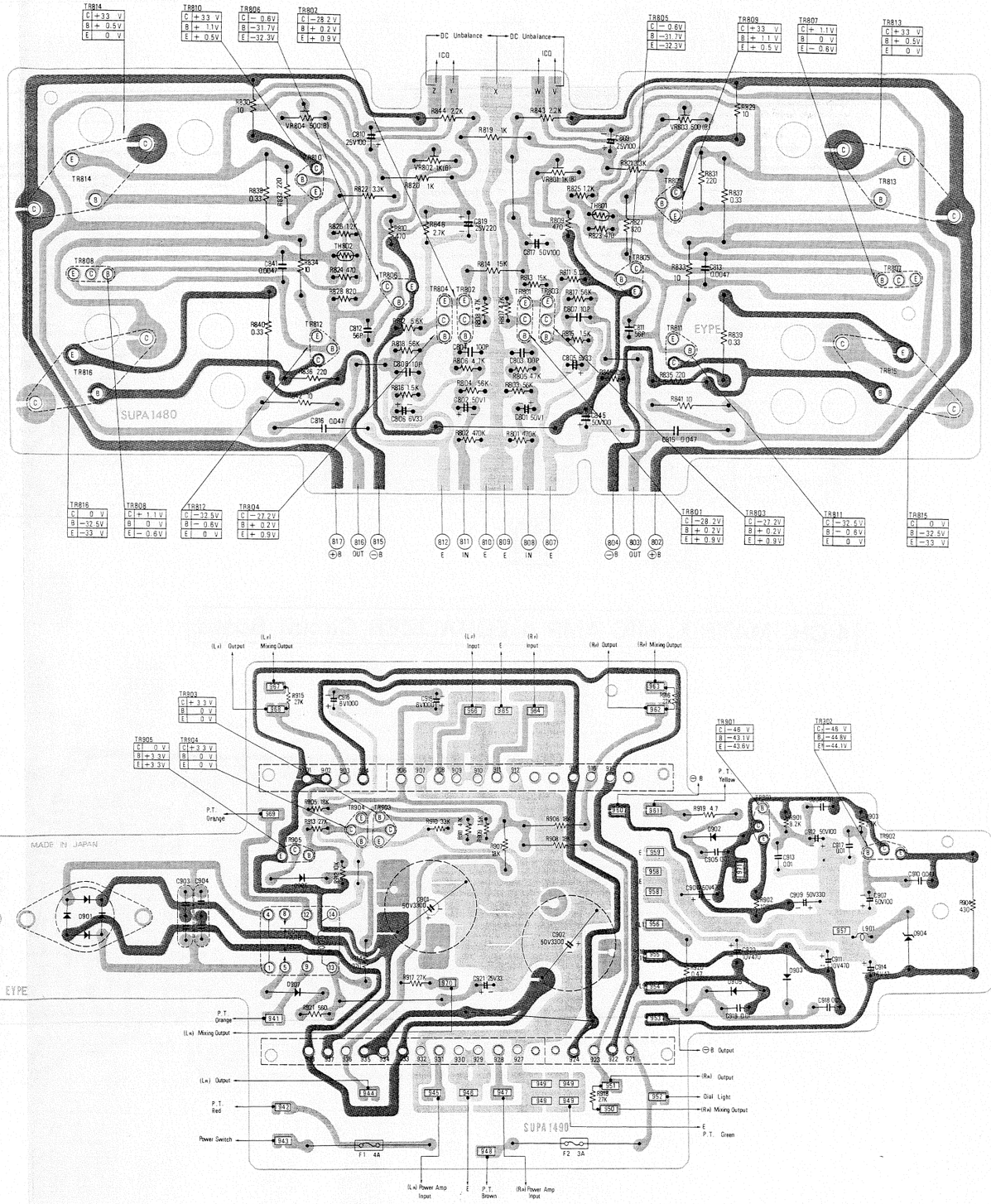
CONTROL Circuit Board



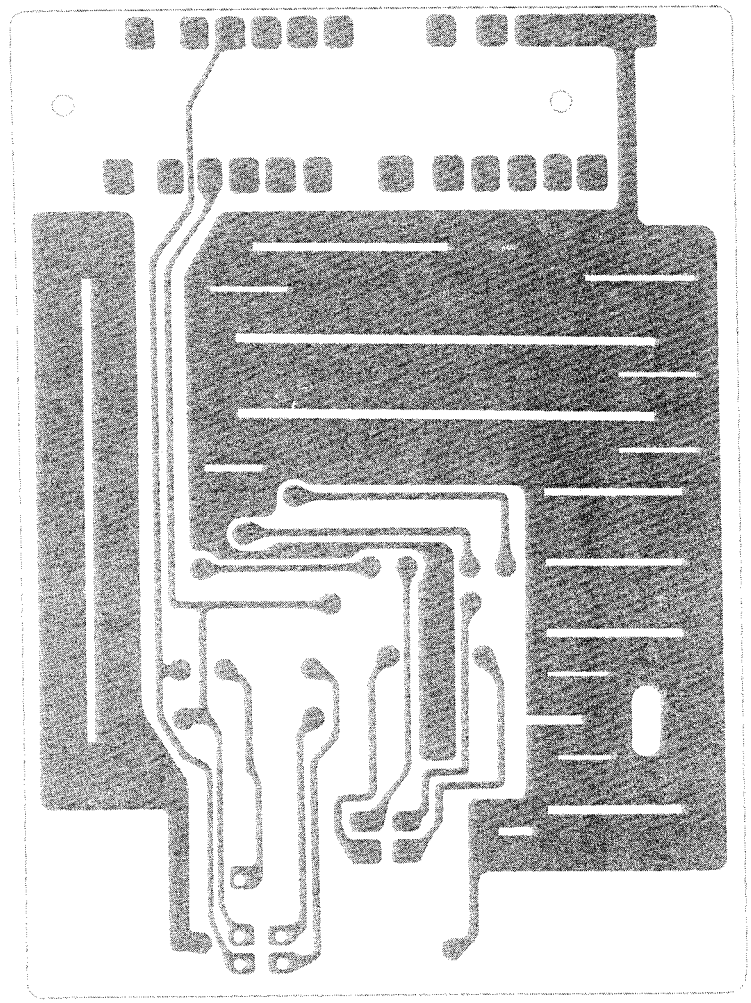
POWER SUPPLY & SPEAKERS PROTECTION Circuit Board

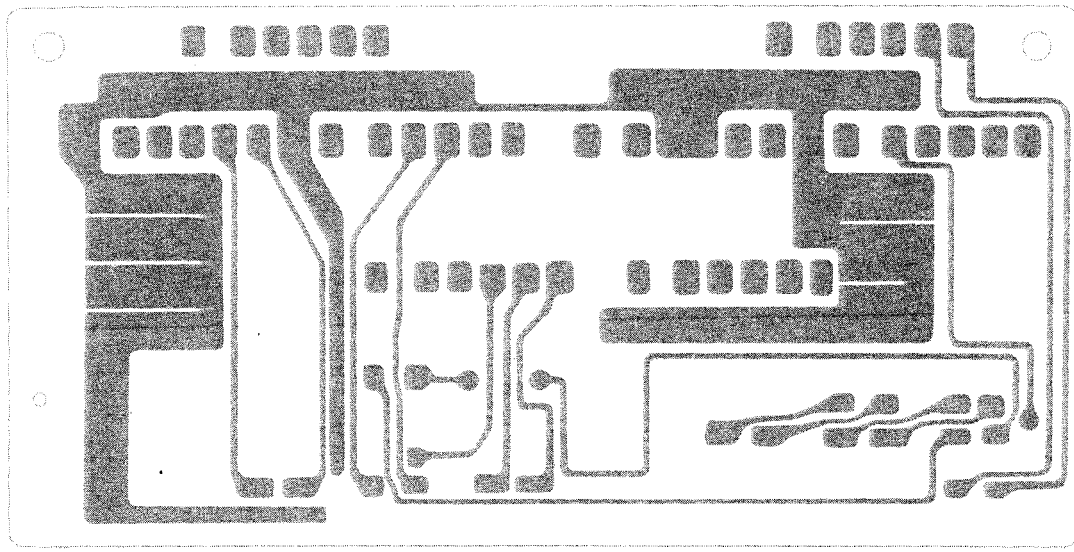
MAIN AMP. Circuit Board (Each Channel)

Rear channel is same as Front Channel

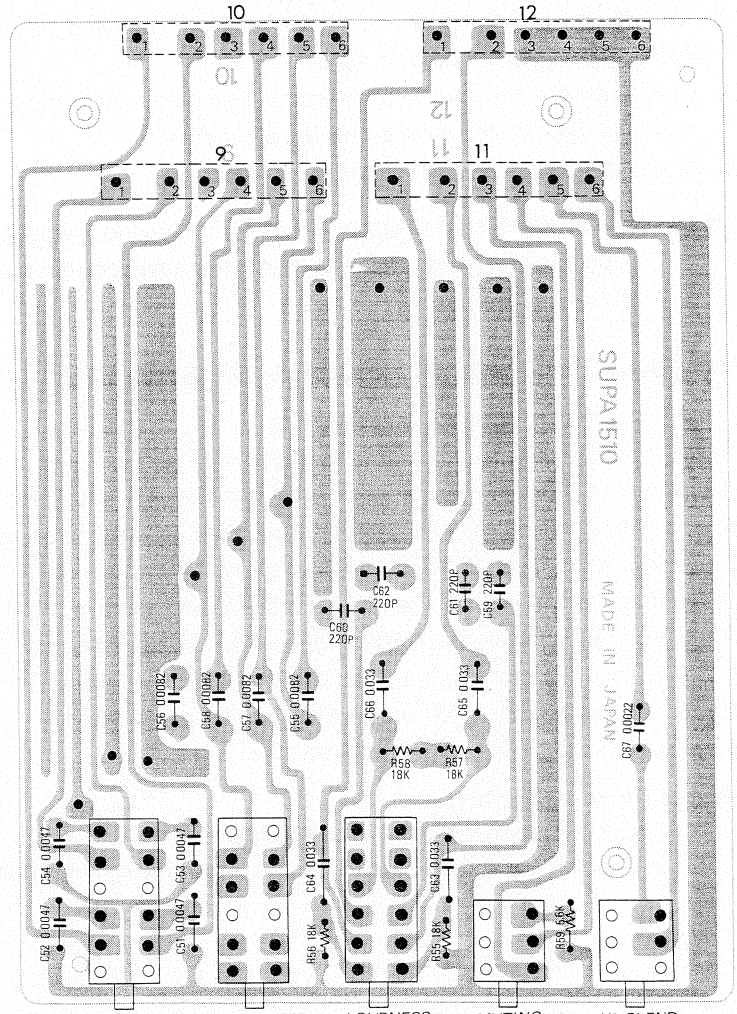


Printed Circuit View
on Top of P. C. B.

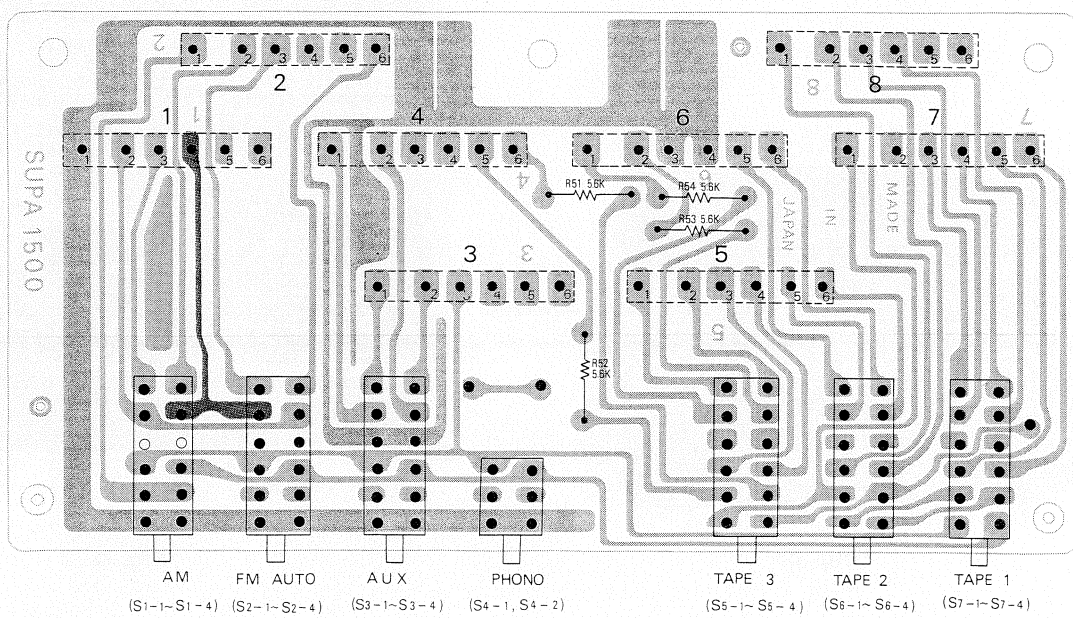




HI-BLEND, MUTING, LOUDNESS, LOW & HIGH FILTER SWITCH Circuit Board



SELECTOR & TAPE MONITOR SWITCH Circuit Board



■ TO REMOVE DIAL POINTER LAMP

1. Remove the front panel. (Refer to page 5)
2. Peel off one side of the paper cloth (the side where the lead wires appear).
3. Pull out the lamp as shown in figure 1.
4. When installing the new lamp, insert the lamp, put some binding agent on points ⓐ and ⓑ, and recover with the paper cloth.
5. Attach the lamp lead wire to the tab at point ⓒ.

(Note) Please attach so that light will not leak out around the part where the paper cloth is pasted, and assure that the lamp does not move when the dial is operating.

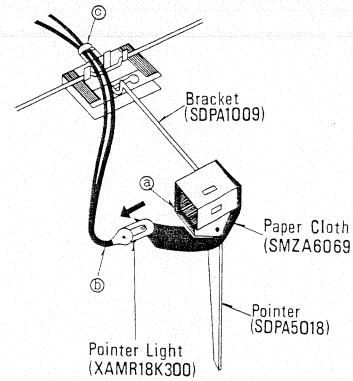


Fig. 1

■ TO REMOVE CIRCUIT BOARD OF SWITCHES

1. Remove the front panel (Refer to page 5).
2. Remove three (3) control volume mounting nuts, nos. 1, 2 and 3, refer to figure 2.
3. Remove two (2) control circuit board mounting screws, nos. 4 and 5, refer to figure 4.
4. To remove muting and filter switch circuit board, connecting socket from circuit board should be first removed.
5. Remove four (4) circuit board mounting screws, nos. 6～9, refer to figure 2 and 4.
6. Remove muting and filter switch circuit board, while control circuit board is raised as shown in figure 3.
7. Remove tape monitor and selector switch circuit board as described above. (Remove other connecting sockets and circuit board mounting screws, if it is difficult to remove circuit board.)
8. Don't damage push-switch knobs, when removing circuit board.
9. To reassemble, reverse the above procedure.

(Notes for re-assembly)

1. Connect connecting socket at original position.
2. Shaft of push switch should be mounted in the center of the panel hole.

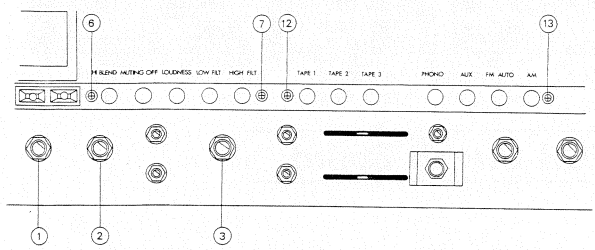


Fig. 2

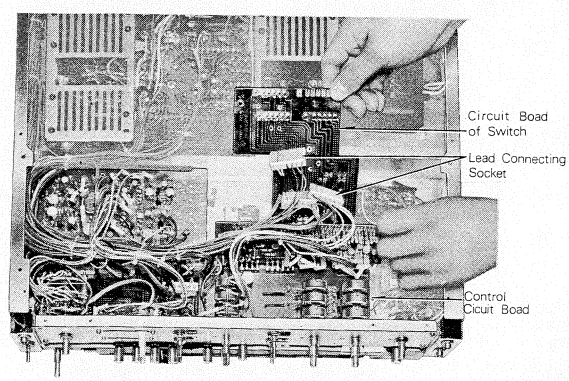


Fig. 3

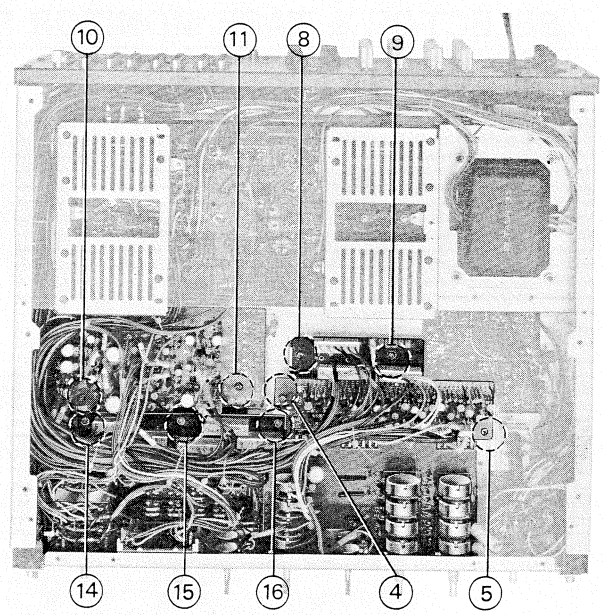


Fig. 4

■ HOW TO CHANGE CONNECTING SOCKET

When the connecting socket is damaged, replace it using the special connecting socket (SJSA902 or SJSA903) as shown below.

1. Cut the base of the lead wires which are connected to the connecting socket and strip off about 19/32 inch (15mm) from their ends.
2. Twist together the respective lead wires of the special connecting socket and the lead wires of the unit. Refer to figure 1.
3. Solder the twisted part. Refer to figure 2.
4. Put insulation tape around the soldered area in order to prevent short-circuiting between the wires. Refer to figure 3.
5. Cut away unnecessary lead wire from the base of the special connecting socket (SJSA903) Refer to figure 4.
6. When connecting the lead wire to the special connecting socket (SJSA902), follow the instructions above.

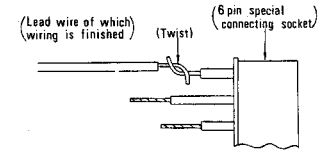


Fig. 1

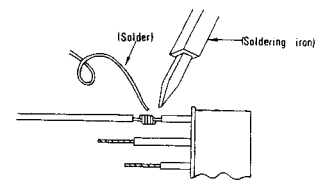


Fig. 2

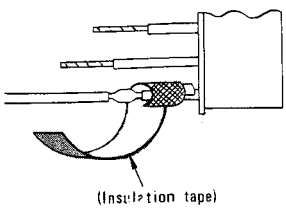


Fig. 3

Note:

1. Part number SJSA902 is replacement part for connecting socket part number SJSA27~35, 37~44, 46~54, 57, 59 and 60. Refer to figure 5.
2. Part number SJSA903 is replacement part for connecting socket part number SJSA6~10, 18, 19, 21, 22 and24~26. Refer to figure 6.

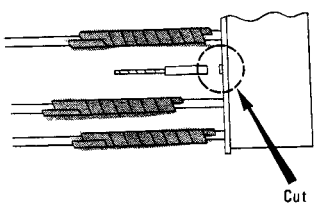


Fig. 4

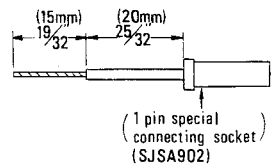


Fig. 5

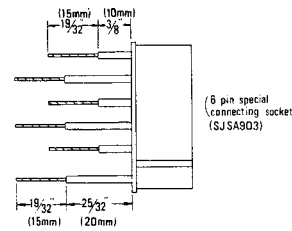
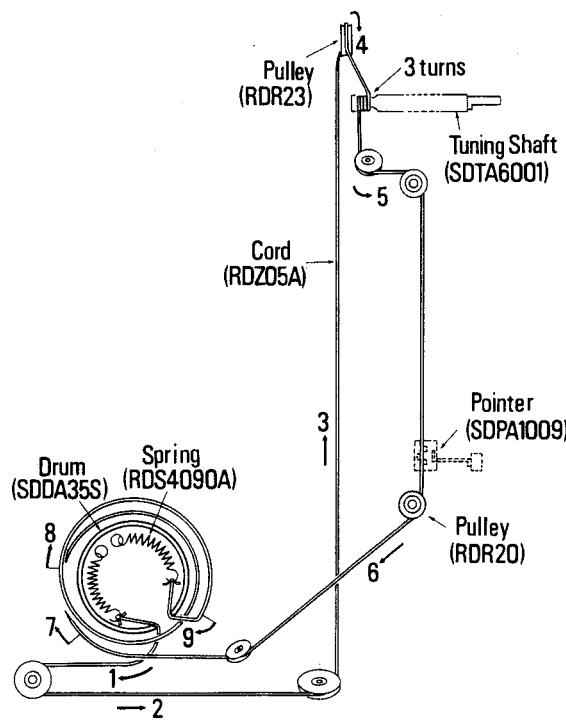


Fig. 6

■ DIAL CORD INSTALLATION GUIDE

1. Dial cord length is 63-1/8" (160cm).
2. Tuning gang is positioned at maximum capacity.



■ SERVICE AID

A. Possible causes when the unit doesn't operate even though the power is turned on.

1. Speaker protection circuit is functioning

– Causes –

a. When a DC voltage is present at the speaker terminals due to faulty output amplifier circuitry.

b. When the unit operates, as described below when the volume is increased.

(1) The player, tape deck or microphone is connected to the amplifier.

(2) The cover of the shielded wire which is connected to the input terminal is disconnected.

(3) The GROUND lead wire of the player has become disconnected.

(4) The changeover switch and the tape monitor switch of the unit are suddenly changed.

(5) The power switch is turned on and off many times.

(6) When playing records, the needle tip is accidently dropped on the record surface.

(7) When using the changeover installation of the amplifier, the player, and the speaker, they are connected incorrectly or they are unsuitable to each other.

(8) A clicking noise from the connected equipment is loud.

2. The circuit protection fuse has melted

– Causes –

a. When the speaker terminal is short-circuited.

b. When the sum of the speaker impedance is less than the standard value of 4Ω, as may be the case when the speakers are connected in parallel.

3. Fault in the connected equipment.

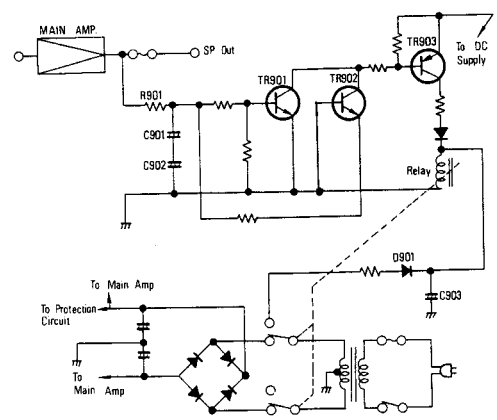
4. A connecting error and a fault in the connecting wire.

5. Operating error

* Please check the circuitry if the unit doesn't operate after the above have been checked.

B. This unit is equipped with a circuit protection fuse which prevents the power transistor from becoming damaged by a short circuit at the speaker terminals, and speaker protection circuitry which prevents the speaker from becoming damaged by DC voltage.

* Figure on the right shows the circuitry. Regarding the operation theory, the DC quantity is detected by the integrated detection circuit which is comprised of R901 and C901, 902.
TR901 operates during the positive voltage, TR902 operates during the negative voltage and TR903 operates the relay.
When the relay is operating, the power supply voltage of the main amplifier and output DC voltage will become zero, so that speakers are protected. The relay is maintained by the current which is rectified by the circuitry of D901 and C903.



(Speaker Protection Circuit)

C. The principle of the AFD control (Acoustic Field Dimension Control) and phase deviation circuit.

Q'PLEX PHASE 90°

In the phase deviation circuit, the LR signal becomes the lagging signal and the RR signal becomes the leading signal, the same as when set to the Q'PLEX PHASE 90° position, but, due to the time constant of the phase deviation circuit shifting, the phase difference between the LR signal and the RR signal is 90° at the middle frequencies (phases are the same at low and high frequencies) when the "DEPTH" control is set to the 10 position, and, when set to the 0 position, the phase difference is also 90° but changes to 180° at the low and high frequencies. Refer to figure 1.

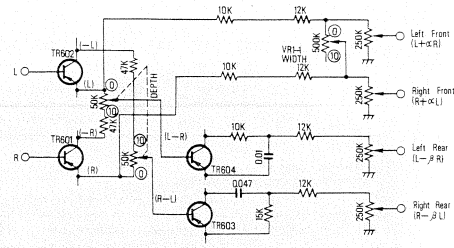


Fig. 1

Q'PLEX PHASE 0°

In the phase deviation circuit, the LR signal becomes the lagging signal and the RR signal becomes the leading signal. In this case, because the time constants of the two phase deviation circuits are adjusted approximately equal, the LR signal and the RR signal become the same (just as monaural signals are the same phase) when the "DEPTH" control is set to the 10 position, and they become stereo signals with a 180° phase difference when the control is set to the 0 position. Refer to figure 2.

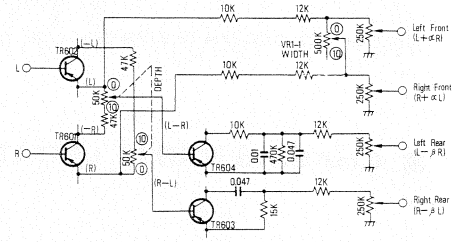


Fig. 2

Q'PLEX PHASE 180°

In this case only, the phase deviation circuit is an emitter follower, therefore the phase is not changed. The phase difference between the LR signal and the RR signal is 180° when the "DEPTH" control is set to the 10 position, and, when the control is set to the 0 position, they become stereo signals with the same phase. Refer to figure 3.

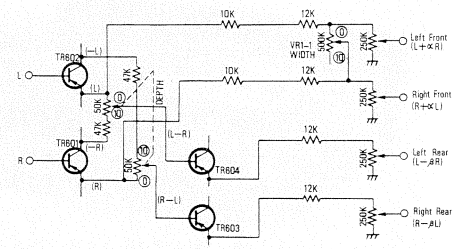
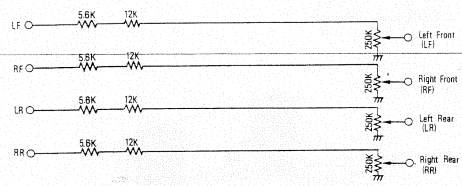


Fig. 3

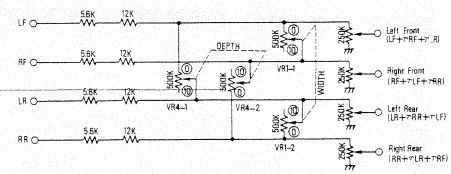
Q'SONIC

In this position, the input signals appear directly as the output through the AF amplifier. These signals do not pass through the matrix circuit or the phase deviation circuit. Refer to figure 4 and 5.



(AFD OFF Position)

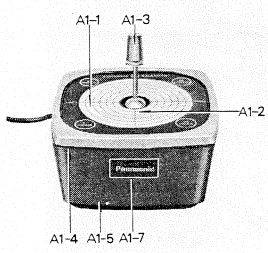
Fig. 4

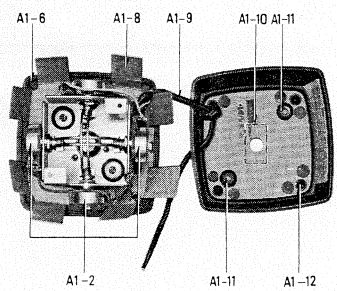


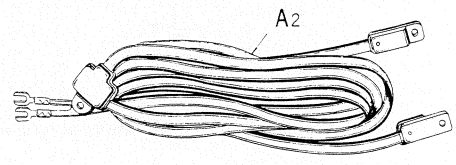
(AFD ON Position)

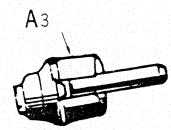
Fig. 5

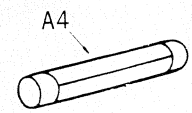
■ ACCESSORIES



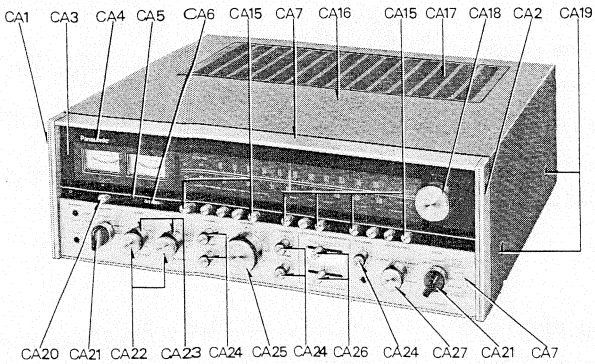


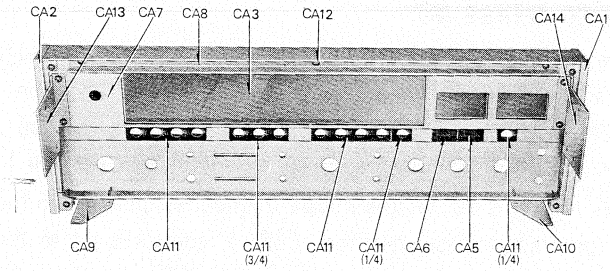




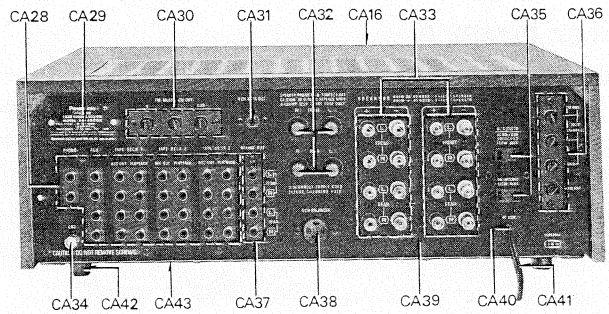


■ CABINET PARTS LOCATIONS

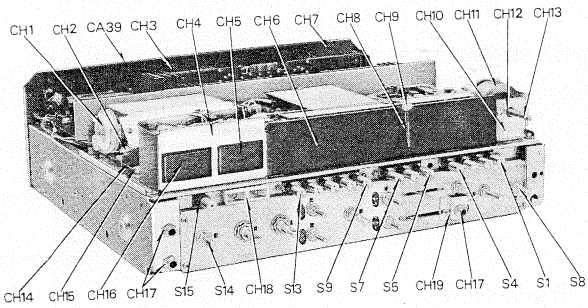


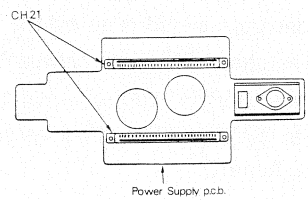


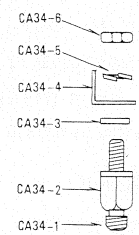
Back View of Front Panel

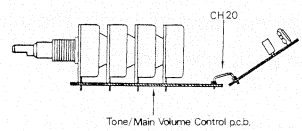


■ CHASSIS PARTS LOCATIONS

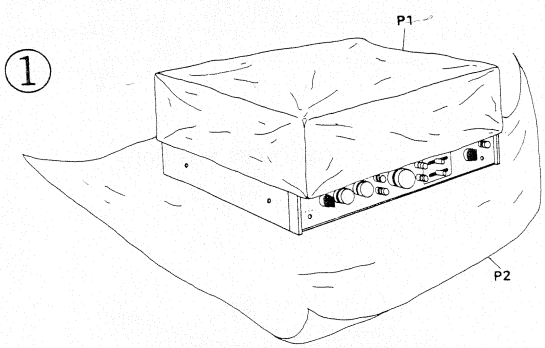


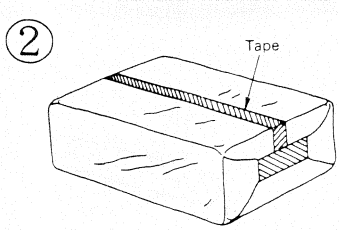


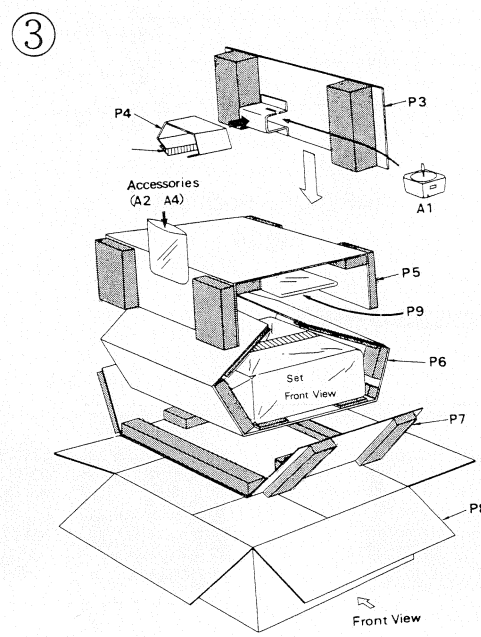




■ PACKING PARTS LOCATIONS







■ REPLACEMENT PARTS LIST

NOTES:

1. Part numbers are indicated on most mechanical parts. Please use this part number, for parts orders.
2. Ⓝ indicates the New Parts.
3. **A**~**C** rank **A** rank parts will cover 80% of repair needs.
   A+**B** rank parts will cover 95% of repair needs.
   C rank parts are less necessary.

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
INTEGRATED CIRCUIT and TRANSISTORS				
IC301	AN211A, B	FM MPX Circuit	1	A
TR101, 102	3SK39Q	FM RF Amplifier	2	A
TR103, 104, 105, 106	2SC920Q	FM Mix, Osc & AM Mix, Osc	4	A
TR201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 215, 216	2SC829C	FM-IF Amplifier, Limiter & AM-IF Amplifier	14	A
TR213, 214	2SC828Q, R	Muting Switching	2	A
TR217, 302, 303	2SA666P, Q	AF Amplifier	3	A
TR301	2SA642W, S	Stereo Eye Switching	1	A
TR401, 402	2SA666AⒾ-R,S	Equalizer Amplifier	2	A
TR403, 404	2SC828AⒺ-Q,R	Equaiizer Amplifier	2	A
TR501, 502	2SA666Ⓘ-R, S	Mic Amplifier	2	A
TR503	2SC644Q, R	Mic Amplifier	1	A
TR504, 505, 506, 507	2SA666AⒾ-R,S	Mic Amplifier	4	A
TR601, 602, 603, 604	2SA666AⒾ-R,S	4ch. Matrix & Phase Shift	4	A
TR701, 702, 703, 704, 705, 706, 707, 708	2SA666Ⓘ-R, S	Control Amplifier	8	A
TR801(×2), 803(×2)	2SA666A-AD1~AD5	Differential Amp. (Use in pairs)	4	A
TR802(×2), 804(×2)	2SA666A-AD1~AD5	Differential Amp. (Use in pairs)	4	A
TR805(×2), 806(×2)	2SC696A-A,B,D,E,H	Pre Driver Amplifier	4	A
TR807(×2), 808(×2)	2SC828Q, R	Thermal Compensation	4	A
TR809(×2), 810(×2)	2SC696A-A,B,D,E,H	Driver Amp. (Use in pairs)	4	A
TR811(×2), 812(×2)	2SA546A-A,B,D,E,H	Driver Amp. (Use in pairs)	4	A
TR813(×2), 815(×2)	2SD217L, M	Power Amplifier (Use in pairs)	4	A
TR814(×2), 816(×2)	2SD217L, M	Power Amplifier (Use in pairs)	4	A
TR901, 902	2SA684Q, R	Ripple Filter	2	A
TR903, 904	2SC828A-Q, R	Switching, Speaker Protection	2	A
TR905	2SA545L	Switching, Speakr Protection	1	A
DIODES				
D101, 102	0A90	AOC	2	A
D103, 104, 105, 203, 204, 205, 206, 208, 209, 212, 213, 214, 301	0A79	AOC, AGC, Detector	13	A
D201, 202	2-0A79	FM Discriminator	1pair	A
D207, 210, 211	1S1211	AOC	3	A
D901	SVDAS2HB10	Rectifier	1	A
D902, 903, 905, 906, 907	RVDSD-1Y	Rectifier	5	A
D904	RVDIN4740	Voltage Stabilizer	1	A
COILS and TRANSFOMERS				
L101	SLAA4W1	Balun Coil	1	A
L102	SLAA4N8	FM Antenna Coil	1	A
L103	SLDA4N16	FM DET Coil	1	A
L104	SLDA4N17	FM DET Coil	1	A
L105	RLQY15G5	FM IF Trap Coil	1	B
L106	SLOA4N10	FM OSC Coil	1	A
L107, 201, 202, 203, 901	SLQX151-1Y	RFC	5	B
L108	SLFA2E12	AM Antenna Coil	1	A
L109	SLOA2C5	AM OSC Coil	1	A
L110	RLQY15S5	RFC	1	B
L301, 302, 303, 304, 305	SLMA1X1-K	SCA, 38kHz & 19kHz Trap Coil	5	A
T1	SLTA5S1S	Power Transformer	1	Ⓝ A
T101	SLIA4C101	FM 1st IF Transformer	1	A
T102, 103	RLI2C157-M	AM 1st IF Transformer (P), (S)	2	A
T201, 202, 203	SLIA4C23	FM 5th (P), (S) & 6th IFT	3	A
T204	SLIA4C54	FM 7th IF Transformer (P)	1	A
T205	SLIA4C56	FM 7th IF Transformer (S)	1	A
T206, 207	SLIA4C24	Muting IF Transformer (P), (S)	2	A
T208	RLI2C257-M	AM 2nd IF Transformer	1	A
T209	RLI2C450-M	AM 3rd IF Transformer	1	A
T301	SLMA1D1K	19kHz Pick-up Coil	1	A
T302	SLMA1D2K	38kHz Pick-up Coil	1	A
CERAMIC FILTERS				
CF101, 201, 202	RVFCF10M12CG,B, R,W,Y	FM-IF Circuit, 10.7MHz (Use in pairs)	3	A
SPEAKERS PROTECTION RELAY				
	SSYA1	Relay, Power Source Circuit	1	A
RESISTORS				
R324	ERD14TJ4R7	4.7Ω, 1/4W, ± 5%, Carbon	1	B
R325	ERD14TJ180	18Ω, 1/4W, ± 5%, Carbon	1	B
R271, 273, 276	ERD14TJ101	100Ω, 1/4W, ± 5%, Carbon	3	B
R221, 225, 227, 231	ERD14TJ221	220Ω, 1/4W, ± 5%, Carbon	4	B
R216	ERD14TJ331	330Ω, 1/4W, ± 5%, Carbon	1	B
R217	ERD14TJ391	390Ω, 1/4W, ± 5%, Carbon	1	B
R204, 209, 212	ERD14TJ471	470Ω, 1/4W, ± 5%, Carbon	3	B
R215, 229	ERD14TJ561	560Ω, 1/4W, ± 5%, Carbon	2	B
R239, 320, 321	ERD14TJ681	680Ω, 1/4W, ± 5%, Carbon	3	B
R827	ERD14TJ821	820Ω, 1/4W, ± 5%, Carbon	1	B
R9, 10, 11, 12, 222, 307, 703, 704	ERD14TJ102	1kΩ, 1/4W, ± 5%, Carbon	8	B
R234, 272, 284, 843(×2), 844(×2)	ERD14TJ222	2.2kΩ, 1/4W, ± 5%, Carbon	7	B
R274	ERD14TJ272	2.7kΩ, 1/4W, ± 5%, Carbon	1	B
R270, 275, 311, 312, 821(×2), 822(×2)	ERD14TJ332	3.3kΩ, 1/4W, ± 5%, Carbon	8	B
R248, 281, 305	ERD14TJ392	3.9kΩ, 1/4W, ± 5%, Carbon	3	B
R1, 2, 241, 285	ERD14TJ472	4.7kΩ, 1/4W, ± 5%, Carbon	4	B
R51, 52, 53, 54	ERD14TJ562	5.6kΩ, 1/4W, ± 5%, Carbon	4	B
R318, 319	ERD14TJ682	6.8kΩ, 1/4W, ± 3%, Carbon	2	B
R3, 4, 246, 278, 316, 317	ERD14TJ103	10kΩ, 1/4W, ± 5%, Carbon	6	B
R5, 6, 7, 8	ERD14TJ123	12kΩ, 1/4W, ± 5%, Carbon	4	B
R277, 814(×2)	ERD14TJ153	15kΩ, 1/4W, ± 5%, Carbon	3	B
R906, 907, 908	ERD14TJ183	18kΩ, 1/4W, ± 5%, Carbon	3	B
R18	ERD14TJ154	150kΩ, 1/4W, ± 5%, Carbon	1	B

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
R202, 207, 213, 219	ERD14TJ273	27kΩ, 1/4W, ± 5%, Carbon	4	B
R243, 244, 282, 230	ERD14TJ333	33kΩ, 1/4W, ± 5%, Carbon	4	B
R228, 235	ERD14TJ393	39kΩ, 1/4W, ± 5%, Carbon	2	B
R302	ERD14TJ473	47kΩ, 1/4W, ± 5%, Carbon	1	B
R314, 315	ERD14TJ683	68kΩ, 1/4W, ± 5%, Carbon	2	B
R201, 208, 214, 218	ERD14TJ823	82kΩ, 1/4W, ± 5%, Carbon	4	B
R279, 283, 286, 322, 323	ERD14TJ104	100kΩ, 1/4W, ± 5%, Carbon	5	B
R247	ERD14TJ224	220kΩ, 1/4W, ± 5%, Carbon	1	B
R113, 203	ERD14VJ470	47Ω, 1/4W, ± 5%, Carbon	2	B
R104, 108, 112, 154, 157	ERD14VJ101	100Ω, 1/4W, ± 5%, Carbon	5	B
R220, 240	ERD14VJ221	220Ω, 1/4W, ± 5%, Carbon	2	B
R153	ERD14VJ271	270Ω, 1/4W, ± 5%, Carbon	1	B
R211	ERD14VJ331	330Ω, 1/4W, ± 5%, Carbon	1	B
R111	ERD14VJ391	390Ω, 1/4W, ± 5%, Carbon	1	B
R280, 415, 416, 809(×2), 810(×2), 823(×2), 824(×2)	ERD14VJ471	470Ω, 1/4W, ± 5%, Carbon	11	B
R210, 921	ERD14VJ561	560Ω, 1/4W, ± 5%, Carbon	2	B
R152, 301	ERD14VJ681	680Ω, 1/4W, ± 5%, Carbon	2	B
R721, 722, 723, 724, 828(×2)	ERD14VJ821	820Ω, 1/4W, ± 5%, Carbon	6	B
R407, 408, 504, 507, 603, 604, 701, 702	ERD14VJ102	1kΩ, 1/4W, ± 5%, Carbon	8	B
R119, 118, 156, 511, 737, 738, 739, 740, 825(×2), 826(×2)	ERD14VJ122	1.2kΩ, 1/4W, ± 5%, Carbon	12	B
R205, 303, 427, 637, 815(×2), 816(×2), 909	ERD14VJ152	1.5kΩ, 1/4W, ± 5%, Carbon	9	B
R561, 562, 563, 564	ERD14VJ182	1.8kΩ, 1/4W, ± 5%, Carbon	4	B
R226, 310, 313, 765, 766, 767, 768	ERD14VJ222	2.2kΩ, 1/4W, ± 5%, Carbon	7	B
R242, 306, 421, 422, 749, 750, 751, 752, 846(×2), 903	ERD14VJ272	2.7kΩ, 1/4W, ± 5%, Carbon	11	B
R155, 232, 233, 237	ERD14VJ332	3.3kΩ, 1/4W, ± 5%, Carbon	4	B
R206, 627, 717, 718, 719, 720	ERD14VJ392	3.9kΩ, 1/4W, ± 5%, Carbon	6	B
R 627, 805(×2), 806(×2), 807(×2), 808(×2)	ERD14VJ472	4.7kΩ, 1/4W, ± 5%, Carbon	9	B
R59, 151, 514, 515, 552, 565, 773, 774, 775, 776, 811(×2), 812(×2)	ERD14VJ562	5.6kΩ, 1/4W, ± 5%, Carbon	14	B
R309, 517, 761, 762, 763, 764, 777, 778, 779, 780	ERD14VJ682	6.8kΩ, 1/4W, ± 5%, Carbon	10	B
R308, 423, 424, 611, 612, 901	ERD14VJ822	8.2kΩ, 1/4W, ± 5%, Carbon	6	B
R114, 115, 613, 614, 628, 630, 631, 729, 730, 731, 732, 745, 746, 747, 748, 912, 287	ERD14VJ103	10kΩ, 1/4W, ± 5%, Carbon	17	B
R503, 713, 714, 715, 716	ERD14VJ123	12kΩ, 1/4W, ± 5%, Carbon	5	B
R117, 238, 506, 509, 632, 733, 734, 735, 736, 813(×2)	ERD14VJ153	15kΩ, 1/4W, ± 5%, Carbon	11	B
R55, 56, 57, 58, 109, 557, 558, 559, 560, 905	ERD14VJ183	18kΩ, 1/4W, ± 5%, Carbon	10	B
R116, 403, 404, 512	ERD14VJ223	22kΩ, 1/4W, ± 5%, Carbon	4	B
R223, 413, 414, 419, 420, 510, 705, 706, 707, 708, 913, 915, 916, 917, 918	ERD14VJ273	27kΩ, 1/4W, ± 5%, Carbon	15	B
R607, 608, 781, 782, 783, 784	ERD14VJ393	39kΩ, 1/4W, ± 5%, Carbon	6	B
R551, 553, 554, 555, 556, 617, 618, 623, 624, 911	ERD14VJ473	47kΩ, 1/4W, ± 5%, Carbon	10	B
R411, 412, 803(×2), 804(×2), 817(×2), 818(×2)	ERD14VJ563	56kΩ, 1/4W, ± 5%, Carbon	10	B
R409, 410, 505, 605, 606, 609, 610, 621, 622	ERD14VJ683	68kΩ, 1/4W, ± 5%, Carbon	9	B
R224, 516, 709, 710, 711, 712	ERD14VJ823	82kΩ, 1/4W, ± 5%, Carbon	6	B
R910	ERD14VJ333	33kΩ, 1/4W, ± 5%, Carbon	1	B
R103, 107, 110, 425, 426, 769, 770, 771, 772	ERD14VJ104	100kΩ, 1/4W, ± 5%, Carbon	9	B
R101, 102, 105, 106, 502, 757, 758, 759, 760	ERD14VJ124	120kΩ, 1/4W, ± 5%, Carbon	9	B
R405, 406, 513, 615, 616, 619, 620, 633, 634, 635	ERD14VJ154	150kΩ, 1/4W, ± 5%, Carbon	10	B
R508	ERD14VJ224	220kΩ, 1/4W, ± 5%, Carbon	1	B
R401, 402, 501, 601, 602	ERD14VJ274	270kΩ, 1/4W, ± 5%, Carbon	5	B
R625, 626	ERD14VJ334	330kΩ, 1/4W, ± 5%, Carbon	2	B
R753, 754, 755, 756	ERD14VJ394	390kΩ, 1/4W, ± 5%, Carbon	4	B
R417, 418, 636, 801(×2), 802(×2)	ERD14VJ474	470kΩ, 1/4W, ± 5%, Carbon	7	B
R725, 726, 727, 728, 741, 742, 743, 744	ERD14VJ105	1MΩ, 1/4W, ± 5%, Carbon	8	B
R919	ERD14FJ4R7	4.7Ω, 1/4W, ± 5%, Carbon	1	B
R829(×2), 830(×2), 833(×2), 834(×2)	ERD14FJ100	10Ω, 1/4W, ± 5%, Carbon	8	B
R845(×2)	ERD14FJ101	100Ω, 1/4W, ± 5%, Carbon	2	B
R831(×2), 832(×2), 835(×2), 836(×2)	ERD14FJ221	220Ω, 1/4W, ± 5%, Carbon	8	B
R902	ERD12TJ101	100Ω, 1/2W, ± 5%, Carbon	1	B
R914	ERD12TJ271	270Ω, 1/2W, ± 5%, Carbon	1	B
R785, 819(×2), 820(×2)	ERD12TJ102	1kΩ, 1/2W, ± 5%, Carbon	5	B
R837(×2), 838(×2), 839(×2), 840(×2)	ERX2ANJR33	0.33Ω, 2W, ± 5%, Metallic	8	B
R841(×2), 842(×2)	ERX1ANJ100	10Ω, 1W, ± 5%, Metallic	4	B
R920	ERX2ANKR47	0.47Ω, 2W, ±10%, Metallic	1	B
R14, 15, 16, 17	ERM2P471	470Ω, 2W, ± 5%, Wire	4	B
R904	ERM4P431	430Ω, 4W, ± 5%, Wire	1	B
R13	ERC12GK335Z	3.3MΩ, 1/2W, ±10%, Solid	1	B

VARIABLE RESISTORS

VR1-1~1-4	EVB75AA16D55	AFD Control, WIDTH, 50kΩ (ZU) 500kΩ (D)	1	A
VR2	EVHB8A035A15	Mic Level Control, 100kΩ (B)	1	Ⓝ A
VR3	EVI98A039B15	Mic Position Control, 100kΩ (B)	1	Ⓝ A
VR4-1, 4-2	EVB20AA09397	AFD Control, DEPTH, 500kΩ (D)	1	A
VR5, LF, RF, LR, RR	EVHB8A034BF5	Volume (Balance) Control, 250kΩ (B)	4	A

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
VR201	EVLS3AA00B53	FM Meter Swing Adj. 5kΩ (B)	1	A
VR202	EVLS3AA00B54	Muting Level Adjustment, 50kΩ (B)	1	A
VR301	EVLS3AA00B14	Separation Adjustment, 10kΩ (B)	1	A
VR701	EVB83AO30BF5	Main Volume Control, 250kΩ (B)	1	A
VR702, 703	EVI23AS21B15	Bass, Treble Control, 100kΩ (B)	2	A
VR801(×2) 802(×2)	EVLSOAA00B13	DC Unbalance Adjustment, 1kΩ (B)	4	A
VR803(×2), 804(×2)	EVLSOAA00B52	Icq Adjustment, 500Ω (B)	4	A

CAPACITORS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
C125, 225	ECCD05010CC	1pF, 50WV, ±0.25pF, Ceramic	2	C
C227, 228	ECCD051R5CC	1.5pF, 50WV, ±0.25pF, Ceramic	2	C
C117	ECCD05030CC	3pF, 50WV, ±0.25pF, Ceramic	1	C
C157	ECCD05040CC	4pF, 50WV, ±0.25pF, Ceramic	1	C
C166	ECCD05050CU	5pF, 50WV, ± 0.25pF, Ceramic	1	C
C120, 209, 245	ECCD05070DC	7pF, 50WV, ±0.5pF, Ceramic	3	C
C111, 807(×2), 808(×2)	ECCD05100KC	10pF, 50WV, ±10%, Ceramic	5	C
C129	ECCD05070DT	7pF, 50WV, ± 0.5pF, Ceramic	1	C
C103	ECCD05120KC	12pF, 50WV, ±10%, Ceramic	1	C
C116, 130, 132, 163	ECCD05150KC	15pF, 50WV, ±00%, Ceramic	4	C
C224	ECCD05220KC	22pF, 50WV, ±10%, Ceramic	1	C
C131	ECCD05390KC	39pF, 50WV, ±10%, Ceramic	1	C
C214	ECCD05470KU	47pF, 50WV, ±10%, Ceramic	1	C
C229, 803(×2), 804(×2)	ECCD05101K	100pF, 50WV, ±10%, Ceramic	5	C
C258	ECCD05121K	120pF, 50WV, ±10%, Ceramic	1	C
C405, 406	ECCD05151K	150pF, 50WV, ±10%, Ceramic	2	C
C118	ECCD05181K	180pF, 50WV, ±10%, Ceramic	1	C
C59, 60, 61, 62, 217, 265	ECCD05221K	220pF, 50WV, ±10%, Ceramic	6	C
C233	ECCD05331K	330pF, 50WV, ±10%, Ceramic	1	C
C811(×2), 812(×2)	ECCD5560K	56pF, 500WV, ±10%, Ceramic	4	C
C104, 105, 106, 107, 108, 112, 113, 123, 135, 136, 137, 138, 139, 140	ECKD05102P	0.001μF, 50WV, $^{+100}_{-0}$%, Ceramic	14	C
C813(×2), 841(×2)	ECKE05472MY	0.0047μF, 50WV, ±20%, Ceramic	4	C
C119, 122, 126, 133, 165, 201, 203, 251, 908, 913, 917, 918, 919	ECKE05103P	0.01μF, 50WV, $^{+100}_{-0}$%, Ceramic	13	C
C156, 205, 206, 207, 210, 213, 219, 220, 222, 223, 226, 230, 234, 253, 256, 260, 266, 267, 269	ECKE05223P	0.022μF, 50WV, $^{+100}_{-0}$%, Ceramic	19	C
C152, 910	ECKD05473Z	0.047μF, 50WV, $^{+80}_{-20}$%, Ceramic	2	C
C407, 408, 502, 709, 710, 711, 712	ECKD5821K	820pF, 500WV, ±10%, Ceramic	7	C
C905	ECKD5103P	0.01μF, 500WV, $^{+100}_{-0}$%, Ceramic	1	C
C903, 904	RXAF103P22HD	0.01μF, 500WV, $^{+100}_{-0}$%, Ceramic	2	C
C67	ECQM05222KZ	0.0022μF, 50WV, ±10%, Polyester	1	C
C51, 52, 53, 54	ECQM05472KZ	0.0047μF, 50WV, ±10%, Polyester	4	C
C55, 56, 57, 58	ECQM05822KZ	0.0082μF, 50WV, ±10%, Polyester	4	C
C63, 64, 65, 66	ECQM05333KZ	0.033μF, 50WV, ±10%, Polyester	4	C
C815(×2), 816(×2)	ECQM1473M	0.047μF, 125WV, ±20%, Polyester	4	C
C503, 746, 747, 748, 749	ECQG05102KZN	0.001μF, 50WV, ±10%, Polyester	5	C
C725, 726, 727, 728	ECQG05222KZN	0.0022μF, 50WV, ±10%, Polyester	4	C
C413, 414	ECQG05272JZN	0.0027μF, 50WV, ± 5%, Polyester	2	C
C313, 314	ECQG05392JZN	0.0039μF, 50WV, ± 5%, Polyester	2	Ⓝ C
C411, 412	ECQG05822JZN	0.0082μF, 50WV, ± 5%, Polyester	2	C
C158, 159, 166, 261, 262, 611,	ECQG05103KZN	0.01μF, 50WV, ±10%, Polyester	6	C
C155, 202, 254, 257, 717, 718, 719, 720, 721, 722, 723, 724	ECQG05223KZN	0.022μF, 50WV, ±10%, Polyester	12	C
C154, 204, 208, 211, 215, 231, 244	ECQG05333KZN	0.033μF, 50WV, ±10%, Polyester	7	C
C307, 308	ECQG05333JZN	0.033μF, 50WV, ± 5%, Polyester	2	C
C612, 614	ECQG05473KZN	0.047μF, 50WV, ±10%, Polyester	2	C
C164	ECQS1361JZ	360pF, 125WV, ± 5%, Styrol	1	C
C301	ECQS1471JZ	470pF, 125WV, ± 5%, Styrol	1	C
C309, 310	ECQS1152JZ	1500pF, 125WV, ± 5%, Styrol	2	C
C311, 312	ECQS1562JZ	5600pF, 125WV, ± 5%, Styrol	2	C
C417, 418	ECSZ35EFR47	0.47μF, 35WV, Electrolytic	2	B
C501	ECSZ25EF1	1μF, 25WV, Electrolytic	1	B
C401, 402, 507	ECSZ25EF3R3	3.3μF, 25WV, Electrolytic	3	B
C713, 714, 715, 716	ECSZ25EF4R7	4.7μF, 25WV, Electrolytic	4	B
C235	ECAG25ER1X	0.1μF, 25WV, Electrolytic	1	B
C317, 318, 504, 505, 551, 552, 553, 554, 607, 608	ECAG25ER33X	0.33μF, 25WV, Electrolytic	10	B
C212, 263, 264, 315, 316, 603, 604, 609, 610, 613, 701, 702, 703, 704, 729, 730, 731, 732, 737, 738, 739, 740	ECAG25ER47X	0.47μF, 25WV, Electrolytic	22	B
C601, 602, 605, 606	ECAG25ER68X	0.68μF, 25WV, Electrolytic	4	B
C415, 416, 705, 706, 707, 708, 805(×2), 806(×2)	ECEA6V33	33μF, 6.3WV, Electrolytic	10	B
C5, 409, 410, 741, 742, 743, 744	ECEA6V47	47μF, 6.3WV, Electrolytic	7	B
C4, 559	ECEA6V100	100μF, 6.3WV, Electrolytic	2	B
C403, 404	ECEA6V220	220μF, 6.3WV, Electrolytic	2	B
C915, 916	ECEA6V1000	1000μF, 6.3WV, Electrolytic	2	B
C304	ECEA10V33	33μF, 10WV, Electrolytic	1	B
C303	ECEA10V47	47μF, 10WV, Electrolytic	1	B
C911, 920	ECEA10V470	470μF, 10WV, Electrolytic	2	B
C232, 252, 259, 506	ECEA16V10	10μF, 16WV, Electrolytic	4	B
C914	ECEA16V47	47μF, 16WV, Electrolytic	1	B
C216, 268, 305, 306	ECEA16V100	100μF, 16WV, Electrolytic	4	B
C255	ECEA16V220	220μF, 16WV, Electrolytic	1	B
C236, 302	ECEA25V3R3	3.3μF, 25WV, Electrolytic	2	B
C218, 733, 734, 735, 736	ECEA25V4R7	4.7μF, 25WV, Electrolytic	5	B
C921	ECEA25V33	33μF, 25WV, Electrolytic	1	B
C508	ECEA25V47	47μF, 25WV, Electrolytic	1	B
C809(×2), 810(×2)	ECEA25V100	100μF, 25WV, Electrolytic	4	B
C560, 745, 819(×2)	ECEA25V220	220μF, 25WV, Electrolytic	4	B
C153, 221, 555, 556, 557, 558, 801(×2), 802(×2)	ECEA50V1	1μF, 50WV, Electrolytic	10	B
C419, 615, 817(×2), 845(×2), 907, 912	ECEA50V100	100μF, 50WV, Electrolytic	8	B
C909	ECEA50V330	330μF, 50WV, Electrolytic	1	B
C906	ECEA50V470	470μF, 50WV, Electrolytic	1	B
C901, 902	ECET50R3300Y	3300μF, 50WV, Electrolytic	2	Ⓝ B
C3	ECQU2A102MD	0.001μF, 250WV, ±20%, Polyester	1	C
C1, 2	ECQU2A103MD	0.01μF, 250WV, ±20%, Polyester	2	C

VARIABLE CAPACITORS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CV101, 102, 103, 104, 105, 106, (CT105, 106)	ECV6MD34X14G	Tuning Gang, FM/AM (Trimmer, AM)	1	A
CT101, 102, 103	ECV1ZW10P50	Ceramic Trimmer, FM ANT & DET	3	A
CT104	ECV1ZW06P35	Ceramic Trimmer, FM OSC	1	A

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
THERMISTORS and COMPONENT COMBINATIONS				
TH801(×2), 802(×2)	RRT251	Thermistor, Driver Amplifier	4	B
M201	EXA5DL04C	FM Detector Circuit	1	B
C903, 904	RXAF103P22HD	Hum Canceler, 0.01μF 500WV	2	C
SWITCHES				
S1-1~1-4, 2-1~2-4, 3-1~3-4, 4-1, 4-2, 5-1~5-4, 6-1~6-4, 7-1~7-4	→SSHA26S	AM, FM-AUTO, AUX, PHONO & Tape-Monitor 1, 2, 3 Switch (Complete)	1	A
	SBCA44	Button	(7)	B
S8-1~8-10	ESRC5A7F20A	Mode Switch	1	A
S9-1~9-4, 10-1~10-4, 11-1~11-4, 12, 13	→SSHA27S	High, Low Filter, Loudness, Muting & High Blend Switch (Complete)	1	Ⓝ A
	SBCA44	Button	(5)	B
S14-1~14-4	ESRC447F20A	Speaker Selector Switch	1	Ⓝ A
S15	→SSHA24S	Power Source Switch (Complete)	1	A
	SBCA43	Button	(1)	B
	SSHA14S	Switch Only	(1)	A
FUSES and LIGHTS				
F1	XBAS1B4002	Fuse, Power Source (4 Amp.)	1	Ⓝ A
F2	XBAS1B3003	Fuse, Power Source (3 Amp.)	1	A
F3, 4, 5, 6	XBAS1A4001	Fuse, Power Transistor (4 Amp.)	4	A
PL1	XAMR18K300	Light, Dial Pointer, (5V 60mA)	1	A
PL2, 3, 4, 5, 6, 7, 8	XAM35K or T	Light. Meter & Dial, (6.3V 0.25A)	7	A
PL9, 10, 11	XAMR25K200	Light, 2ch., 4ch. & Stereo Eye Indicator (7.5V 75mA)	3	A
CABINET PARTS				
	→SYWA20A	Front Panel (Complete)	1	Ⓝ B
CA1	SGXA37	Ornament, Left Side	(1)	C
CA2	SGXA36	Ornament, Right Side	(1)	C
CA3	SGUA3	Panel, Dial	(1)	Ⓝ C
CA4	SGBA44	Badge, Panasonic	(1)	C
CA5	SGKA116	Indicator, 2 CHANNEL	(1)	C
CA6	SGKA117	Indicator, 4 CHANNEL	(1)	C
CA7	SGWA900	Panel Only, Indicator	(1)	Ⓝ C
CA8	SULA15	Mounting, Panel	(1)	C
CA9	SULA14	Mounting, Right Side	(1)	C
CA10	SULA13	Mounting, Left Side	(1)	C
CA11	SGXA39	Cover, Switches	(3¼)	C
CA12	XTV3D8C	Screw, Panel M'tg.	(15)	C
CA13	SULA12	Mounting, Panel Right Side	1	C
CA14	SULA11	Mounting, Panel Left Side	1	C
CA15	SBCA44	Button, Push Switches	12	B
CA16	→SKAA520	Cabinet (Complete)	1	Ⓝ B
CA17	SGWA362	Hole, Ventilation	(1)	C
CA18	SBNA85	Knob, Tuning	1	A
CA19	XSB4+16BVCS	Screw, Cabinet M'tg.	4	C
CA20	SBCA43	Button, Power Source Switch	1	B
CA21	SBSA3	Knob, Speaker & Mode Switch	2	A
CA22	SBNA88	Knob, Bass Treble Control (Inner)	2	A
CA23	SBNA87	Knob, Bass Treble Control (Outer)	2	A
CA24	SBNA84	Knob, Volume & Mic Level Control	5	A
CA25	SBNA86	Knob, Main Volume Control	1	A
CA26	SBDA1	Knob, AFD Control	2	A
CA27	SBNA89	Knob, Mic Position Control	1	Ⓝ A
	→SYPA20AS	Rear Panel (Complete)	1	Ⓝ B
CA28	SJFA3006	30pin Terminal, Input & Tape Monitor	(1)	C
CA29	SGTA1150	Name plate	(1)	Ⓝ C
CA30	SJFA4302	Terminal, FM Multipath Output	(1)	Ⓝ C
CA31	SJFA3101	1pin Terminal, 4ch. MPX Output	(1)	C
CA32	SJFA107	Holder, Speaker Fuse	(4)	C
CA33	SJFA4804	Terminal, Speakers	(2)	C
CA34-1	SNEA204S	Screw, Grourd Terminal	(1)	C
CA34-2	SNEA404	Nut, Ground Terminal (Outer)	(1)	C
CA34-3	SNTA421	Washer, Ground Terminal	(1)	C
CA34-4	SNTA423	Terminal, Lead Wire	(1)	C
CA34-5	XWA4B	Spring Washer, Ground Trminal	(1)	C
CA34-6	XNG4BS	Nut, Ground Terminal (Inner)	(1)	C
CA35	SJSA1	Socket, AC Power Source	(2)	C
	SMKA3S	Mounting, AC Socket	(1)	C
CA36	SJFA4401	Terminal, FM & AM Ext. Antenna	(1)	C
CA37	SJFA3408	Terminal, Mixing Output	(1)	Ⓝ C
CA38	RJS7A	Socket, 4channel Balancer	(1)	C
CA39	SGPA221C	Rear Panel Only	(1)	Ⓝ C
CA40	RHR111	Bushing, AC Cord	1	C
CA41	RJA34	AC Cord, Power Source	1	C
	→SYUA10A	Bottom Board (Complete)	1	C
CA42	SKLA2	Leg	(4)	C
CA43	SKUA290	Bottom Board Only	(1)	C
	XTV3D8CR	Red Screw, Bottom Board M'tg.	7	C
	XTV3D8CK	Black Screw, Panel & Heat Sink M'tg.	20	C
CHASSIS PARTS				
CH1	SDDA35S	Drum, Dial	1	B
	RDS4090A	Spring, Dial Cord	2	A
CH2	RDR20	Pulley, Dial Cord	4	C
CH3	SMYA27	Heat Sink	2	C
CH4	SMMA2	Mounting, Meter	1	Ⓝ C
CH5	SSMA17	Meter, FM Tuning	1	Ⓝ A
CH6	SKDA290	Scale, Dial	1	Ⓝ B
CH7	SMYA26	Heat Sink	2	C
CH8	SDPA5018	Pointer Only	1	B
CH9	SDPA1009	Bracket, Pointer & Pointer Light	1	B
	→SDTA1S	Shaft, Tuning (Complete)	1	C
CH10	SDXA301	Mounting, Shaft	(1)	C
CH11	SDXA705S	Flywheel	(1)	C
CH12	SDXA223	Bracket, Shaft (Front Side)	(1)	C
	SDXA224	Bracket, Shaft (Rear Side)	(1)	C
CH13	SDTA6001	Shaft Only	(1)	C
CH14	RDZ05A	Cord, Dial (160cm)	63⅛″	B
CH15	RDR23	Pulley, Dial Cord	3	C
CH16	SSMA15-1	Meter, Signal	1	A
CH17	SJJA10	Jack, Headphones & Mic	3	B
CH18	SMZA19	Bracket, Channel Indicator Light	1	C
CH19	SMKA4	Mounting, Mic Jack	1	Ⓝ C
CH20	SJTA305	Connector, Control Circuit Board	3	C
CH21	SJSA5	Socket, Power Supply Circuit Board	2	C
	RJV1A	Holder, Meter Light	2	C
	SJSA201	Holder, Dial Light	1	C
	SJPA1	6 Terminals, Connecting Socket (SJSA903)	12	C
	SJSA902	Connecting Socket, 1 Terminal (Refer to page 13)		A
	SJSA903	Connecting Socket, 6 Terminals (Refer to page 13)		A
ACCESSORIES				
A1	→SH-1010Z	4 channel Balancer (Complete)	1	B
A1-1	SGKA127	Parel	(1)	C
A1-2	→SJLA2	Volume & Mechanism, Complete	(1)	B
A1-3	SBZA68	Knob	(1)	C
A1-4	SGXA32	Ornament	(1)	C
	→RKA90B	Cabinet, Complete	(1)	C
A1-5	RKM96B	Cabinet Only	(1)	C
A1-6	RKF65A	Cap, Cabinet	(1)	C
A1-7	SGBA43	Badge	(1)	C
A1-8	SMCA61	Plate, Shield	(1)	C
A1-9	W4PESE	Cord, Connector (520cm)	(203″)	C
	RJP14A	Plug	(1)	C
A1-10	SGTA1220	Name plate	(1)	C
A1-11	XTV3D8CK	Screw, Cabinet	(2)	C
A1-12	RHB307A	Leg	(4)	C
A2	SSAA1	Cord, FM Antenna	1	B
A3	RJP5	Pin Plug	8	B
A4	XBAS1A4001	Fuse, Circuit Protection (4 A)	4	A

Order SH-1010Z

PACKINGS PARTS				
P1	SPPA25	Soft Caver	1	C
	SPEA3	Cover, AC Plug	1	C
P2	SPHA6008	Polyethylene Sheet	1	C
P3	SPSA14	Pad (Side)	1	C
P4	SPSA15	Cover, Accessory (A1)	1	C
P5	SPSA12	Pad (Upper)	1	C
P6	SPSA11	Pad (Inner)	1	C
P7	SPSA13	Pad (Lower)	1	C
P8	SPGA31A	Carton Box	1	Ⓝ C
P9	→SQFA119	Prited Matter (Complete)	1	Ⓝ B
	SQXA5074	Instructions Book (**Order SQFA119**)	(1)	Ⓝ B

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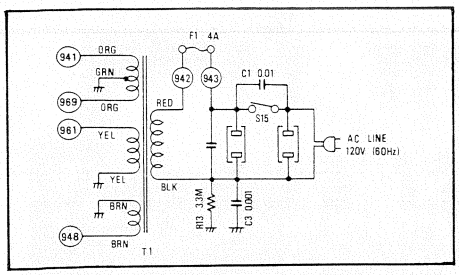
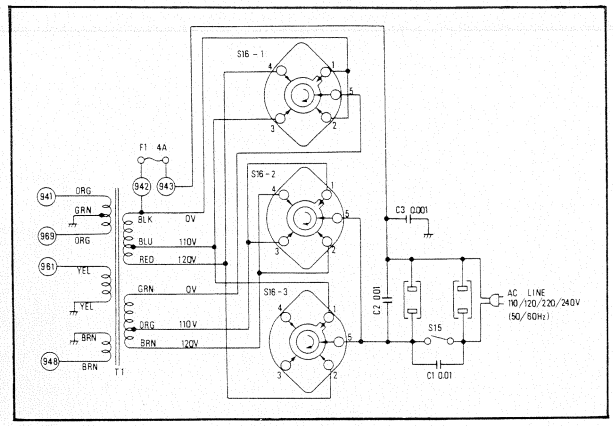
■ CHANGE OF SCHEMATIC DIAGRAMS



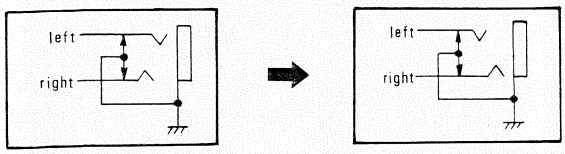
SA-6800X (AD-023)

Fig. 1 Power Supply



SA-6800X

Fig. 2 Power Supply

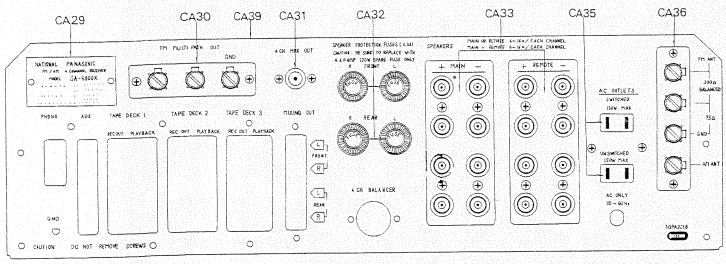


SA-6800X (AD-023) SA-6800X

Fig. 3 Headphones, Front & Rear

(Note) S16-1 ~ S16-3 Power source voltage selector switch in "**110V**" position.
110V ↔ 120V ↔ 220V ↔ 240V

■ CABINET PARTS (Change the Refer No. and the Part No.)



Part No. **SYPA22AS** (Rear Panel, Complete)

Fig. 4

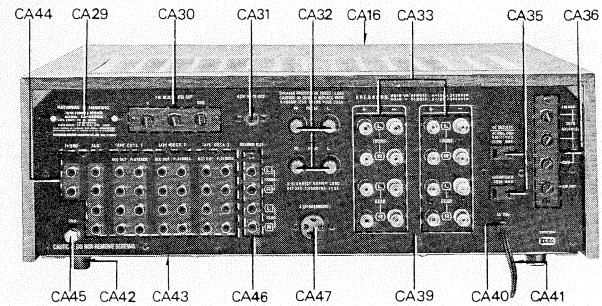


Fig. 5

■ ACCESSORIES

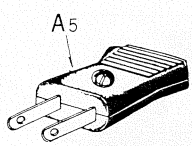


Fig. 7

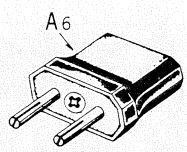


Fig. 8

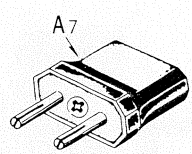


Fig. 9

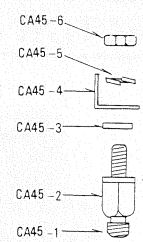


Fig. 6

■ PACKING PARTS

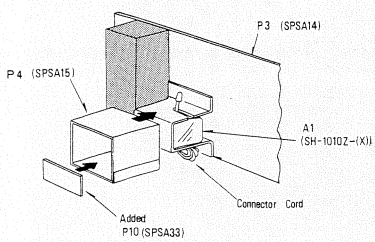


Fig. 10

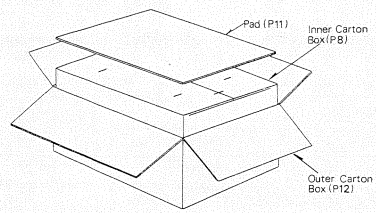
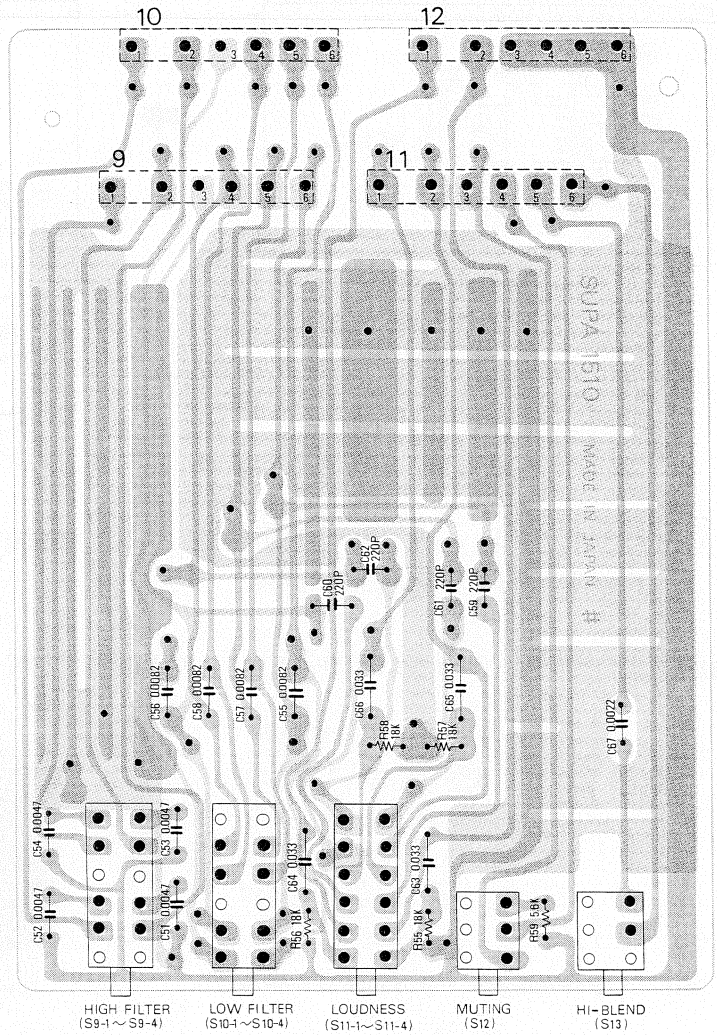


Fig. 11

HI-BLEND, MUTING, LOUDNESS, LOW & HIGH FILTER SWITCH Circuit Board

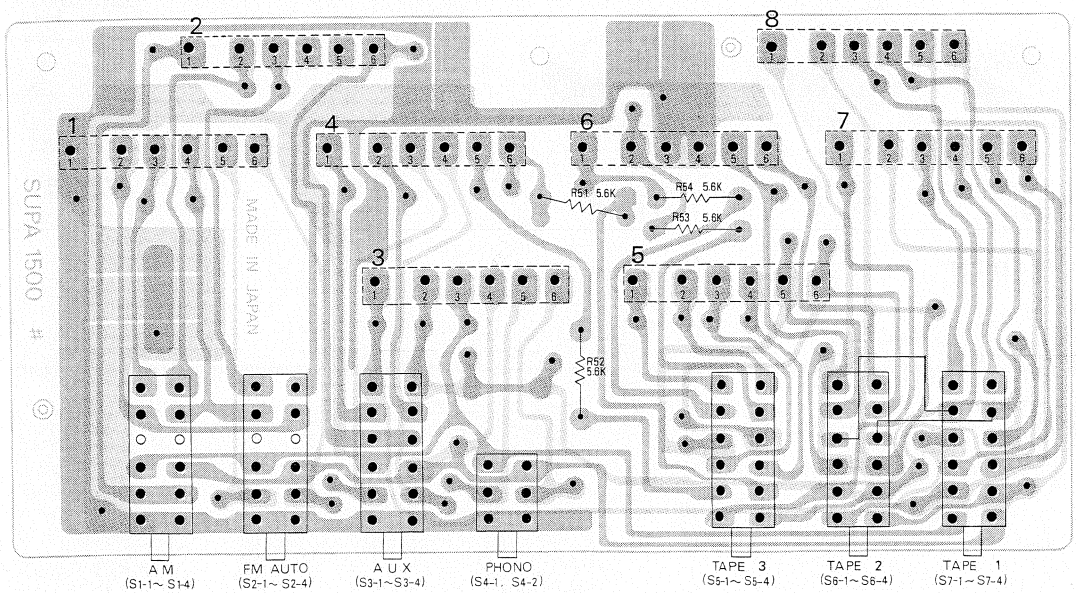


Printed Circuit View For
NATIONAL PANASONIC Model SA-6800X

Printed Circuit View at Back Side

Printed Circuit View at Front Side

SELECTOR & TAPE MONITOR SWITCH Circuit Board



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